

OS/390 and z/OS Installer Guide

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Customer Support

You can obtain technical support by using the Support page on the BMC Software Web site or by contacting Customer Support by telephone or e-mail. To expedite your inquiry, please see “Before Contacting BMC Software.”

Support Web Site

You can obtain technical support from BMC Software 24 hours a day, 7 days a week at <http://www.bmc.com/support.html>. From this Web site, you can

- read overviews about support services and programs that BMC Software offers
- find the most current information about BMC Software products
- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
- subscribe to receive e-mail notices when new product versions are released
- find worldwide BMC Software support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

Support by Telephone or E-mail

In the United States and Canada, if you need technical support and do not have access to the Web, call 800 537 1813. Outside the United States and Canada, please contact your local support center for assistance. To find telephone and e-mail contact information for the BMC Software support center that services your location, refer to the Contact Customer Support section of the Support page on the BMC Software Web site at www.bmc.com/support.html.

Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that Customer Support can begin working on your problem immediately:

- product information
 - product name
 - product version (release number)
 - license number and password (trial or permanent)
- operating system and environment information
 - machine type
 - operating system type, version, and service pack or other maintenance level such as PUT or PTF
 - system hardware configuration
 - serial numbers
 - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
 - product error messages
 - messages from the operating system, such as `file system full`
 - messages from related software

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About This Book

This book contains detailed information about the OS/390 and z/OS Installer and is intended for system administrators and database administrators responsible for the installation of BMC Software products on OS/390 and z/OS systems.

To use this book, you should be familiar with the following items:

- Job control language (JCL) and the Interactive System Productivity Facility (ISPF)
- IBM OS/390 or z/OS systems

For example, you should know how to respond to ISPF panels and how to perform common actions in a mainframe environment.

How This Book Is Organized

This book is organized as follows. In addition, a glossary of terms and an index appear at the end of the book.

Chapter/Appendix	Description
Chapter 1, "Introduction"	provides a brief overview of the installation system including an explanation of the distribution methods, installation procedures, and conventions
Chapter 2, "Preparing for Installation"	describes the Checklist Generator and other preinstallation tools and requirements
Chapter 3, "Using the Installation System"	describes the tasks related to running the installation system
Chapter 4, "Running Installation JCL"	describes the JCL generated by the installation system and instructions for running the jobs

Chapter/Appendix	Description
Appendix A, "BMC Software Product Authorization"	includes information and instructions related to the product authorization utility
Appendix B, "BMC Software Product Authorization Messages"	lists messages related to the product authorization utility

Related Documentation

BMC Software products are supported by several types of documentation:

- online and printed books
- online Help
- release notes and other notices

Specific documents that are required for your product are listed in the release notes and cover letter that were shipped with your order.

Note: The messages that the installation system generates are available in a data set that is downloaded during installation. For each message, the data set includes an explanation and suggests a user response. The data set is called *HLQ.MSGS* (where *HLQ* is the high-level qualifier that is specified during installation).

Online and Printed Books

The books that accompany BMC Software products are available in online format and printed format. If you are a Windows or Unix user, you can view online books with Acrobat Reader from Adobe Systems. The reader is provided at no cost, as explained in "To Access Online Books." You can also obtain additional printed books from BMC Software, as explained in "To Request Additional Printed Books."

To Access Online Books

Online books are formatted as Portable Document Format (PDF) files. You can view them, print them, or copy them to your computer by using Acrobat Reader 3.0 or later. You can access online books from the documentation compact disc (CD) that accompanies your product or from the World Wide Web.

In some cases, installation of Acrobat Reader and downloading the online books is an optional part of the product-installation process. For information about downloading the free reader from the Web, go to the Adobe Systems site at <http://www.adobe.com>.

To view any online book that BMC Software offers, visit the support page of the BMC Software Web site at <http://www.bmc.com/support.html>. Log on and select a product to access the related documentation. (To log on, first-time users can request a user name and password by registering at the support page or by contacting a BMC Software sales representative.)

To Request Additional Printed Books

BMC Software provides printed books with your product order. To request additional books, go to <http://www.bmc.com/support.html>.

Online Help

The installation system includes online Help. In the ISPF interface, you can access Help by pressing **F1** from any ISPF panel.

Release Notes and Other Notices

Printed release notes accompany each BMC Software product. Release notes provide current information such as

- updates to the installation instructions
- last-minute product information

In addition, BMC Software sometimes provides updated product information between releases (in the form of a flash or a technical bulletin, for example). The latest versions of the release notes and other notices are available on the Web at <http://www.bmc.com/support.html>.

Document Conventions

This section provides examples of the conventions used in this book and explains how to read ISPF panel-flow diagrams and syntax statements.

General Conventions

This book uses the following general conventions:

Item	Example
information that you are instructed to type	Type SEARCH DB in the designated field.
specific (standard) keyboard key names	Press Enter .
field names, text on a panel	Type the appropriate entry in the Command field.
directories, file names, Web addresses	The BMC Software home page is at www.bmc.com .
nonspecific key names, option names	Use the HELP function key. KEEPDICTIONARY option
MVS calls, commands, control statements, keywords, parameters, reserved words	Use the SEARCH command to find a particular object. The product generates the SQL TABLE statement next.
code examples, syntax statements, system messages, screen text	//STEPLIB DD The table <i>table_name</i> is not available.
emphasized words, new terms, variables	The instructions that you give to the software are called <i>commands</i> . In this message, the variable <i>file_name</i> represents the file that caused the error.

This book uses the following types of special text:

Note: Notes contain important information that you should consider.

Warning! Warnings alert you to situations that could cause problems, such as loss of data, if you do not follow instructions carefully.

Tip: Tips contain useful information that might improve product performance or that might make procedures easier to follow.

Syntax Statements

Syntax statements appear in Courier. The following example shows a sample syntax statement:

```
COMMAND KEYWORD1 [KEYWORD2|KEYWORD3] KEYWORD4={YES|NO}  
    file_name...
```

The following table explains conventions for syntax statements and provides examples:

Item	Example
Items in italic type represent variables that you must replace with a name or value. Use an underscore for variables with more than one word.	<code>dtbackup <i>control_directory</i></code>
Brackets indicate a group of options. You can choose at least one of the items in the group, but none of them is required. Do not type the brackets when you enter the option. A comma means that you can choose one or more of the listed options. You must use a comma to separate the options if you choose more than one option.	<code>[<i>table_name, column_name, field</i>]</code>
Braces enclose a list of required items. You must enter at least one of the items. Do not type the braces when you enter the item.	<code>{<i>DBD_name table_name</i>}</code>
A vertical bar means that you can choose only one of the listed items. In the example, you would choose either <i>commit</i> or <i>cancel</i> .	<code>{commit cancel}</code>
An ellipsis indicates that you can repeat the previous item or items as many times as necessary.	<code><i>column_name . . .</i></code>

Chapter 1 Introduction

This chapter contains the following topics:

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Installation System Overview

The OS/390 and z/OS Installer is an ISPF application that generates a set of batch jobs in job control language (JCL). You use the installation batch jobs to unload and customize BMC Software products from distribution media. You also use the batch jobs to apply maintenance to installed products.

Installation Methods

The installation system supports the following methods of installation:

- Standard installation provides a fast IEBCOPY installation process that requires less expertise than a System Modification Program Extended (SMP/E) installation.

Note: Standard installation generates an optional SMP/E environment for maintenance for some products.

- SMP/E is an industry-standard installation program that provides a variety of capabilities for unloading products and maintenance. SMP/E provides more flexibility than the Standard installation method for setting up and using an SMP/E environment, but it is more complicated and time consuming.

Regardless of which method you choose, the installation system guides you through the installation process, allowing you to accept or change defaults along the way. You can readily access Help from each panel by pressing **F1**.

Installation Process

The installation process includes unloading products from distribution tape or downloading products from the BMC Software Electronic Software Distribution site. Products are customized for use on your system. You can also use the installation system to perform other tasks, such as applying maintenance and managing licensing authority.

Unloading Products

To ensure a fast and error-free installation, you should understand and plan the unloading process before you begin. The process includes the following steps:

1. Plan the installation. Checklists are included with the product documents that will help you plan the product installation.
2. Unload the installation libraries:
 - You can download the installation libraries from the Electronic Software Distribution (ESD) site. See “Downloading Base Installation Libraries from the ESD Site” on page 3-3.
 - You can unload the installation libraries from a distribution tape. See “Unloading Base Installation Libraries from the Distribution Tape” on page 3-7.
3. Invoke the installation system to build the customized installation library:
 - A. Specify whether you will install products from the ESD site or from distribution tapes.
 - B. Specify the Standard installation method or an SMP/E installation method. See “Creating a Customized Installation Library” on page 3-12.
4. Choose the products to install. See “Generating Installation JCL” on page 3-25.
5. If you are performing an SMP/E installation, review the JCL that is generated by the installation system. See “Running JCL for an SMP/E Installation” on page 4-8.
6. Submit the JCL that the installation system generates to unload the products that you selected.
7. *(optional)* If you are performing a Standard installation, you can run the JCL that downloads SMP/E libraries.

Note: The system generates the JCL referenced in Step 7 for products that require SMP/E maintenance. If generated, you must run the job before you can apply maintenance to your products.

Customizing Products

Customization assigns values to default options and prepares a product for use. The installation system controls the customization process but the assigned values are specific to your product and environment. Before initiating the customization process, identify resources that you may need, such as:

- product release notes
- product installation requirements
- product customization guide

The specific documentation varies, depending on your products.

When you complete the customization dialog, the installation system generates JCL in your installation JCL library.

Performing Other Tasks

In addition to unloading BMC Software products from the distribution media and customizing the products for execution, you can use the installation system to perform the following tasks:

- apply maintenance to enhance functionality and correct problems
- establish password authority to run the installed products
- install copies of products to run on subsystems within your environment

The installation system also allows you to customize the installation process and save the values that you provide, facilitating subsequent installations.

These functions are accessible from the installation system Main Menu. For information about how to perform these tasks, see “Running the Installation System” on page 3-17.

Installation Features

The installation system includes several features to make the installation process easy to perform. You can select some of these features as options during the installation process.

Installation Profiles and the Profile Repository

Installation profiles and the profile repository provide a means of storing and managing installation variables for many products, across many installation sessions. You can use preserved values from any previous installation, or you can selectively use the default values that are provided by the system.

Installation Profile

The installation profile is a sequential file containing all the variables, values, and defaults that you provide during an installation session. When you first run the installation system, you are prompted to create a new profile and provide a useful description. The profile is named as follows:

*hlq.id*PROF

where *hlq* is a high-level qualifier that you provide, *id* is a four-character name that you choose, and PROF is an appended string that identifies the data set as an installation profile.

In subsequent installation sessions, the most recently used profile is used as default. You can choose to create a new profile or you can select a profile from the profile repository.

By reusing an existing profile, you can replicate an earlier installation exactly. If you make changes during the course of the installation dialog, the profile is updated with the new information.

In most cases, it is good practice to create a new profile for a distinctly different installation. If installation variables are few, it is a simple process to copy a similar profile, then advance to the variables that require change (by using the checkpoint feature) to proceed with the installation dialog.

Profile Repository

By using the profile repository, you can ensure a consistent and specific installation environment for a group of products or for a business unit within your enterprise.

The profile repository is an index of profiles used to install BMC Software products. The repository is a sequential file that stores the profile name, the date the profile was created, and other information.

When you first run the installation system, you are required to create a profile repository. BMC Software recommends the following convention for your repository name:

hlq.BMCREPO

where *hlq* is a high-level qualifier that is easily identified by all installation users in your facility. All users are encouraged to use the same repository.

In general, only one repository is necessary for any installation environment. However, since the repository can store many hundreds of profiles, you can choose to create additional repositories for organizational purposes.

Tip: If many profiles are created in your environment, consider creating a separate repository for each calendar or fiscal year in which profiles are created.

Several profile management features are available within the profile repository. These features include the following:

- View or browse a profile to verify the contents before beginning an installation session.
- Print a profile to review the contents. This feature generates print JCL for a profile report.
- Copy a profile to create a profile modelled from another. This is useful when you want to use many but not all of the variables from an earlier session.
- Delete a profile that is no longer required.
- Use an existing profile when you want to replicate a previous installation, using the same variables, values, and defaults that were used in the original installation session.

Profiles are listed in the repository in chronological order of use; the most recently used is listed first.

Checkpoints

The amount of time that is required to install BMC Software products depends on several factors, including:

- number of products that you install
- installation path that you choose for each product
- complexity of each product

By taking checkpoints at predetermined points, the installation system allows you to interrupt the installation if necessary and later resume at the same point.

International Language Support

The installation system automatically invokes international language support if the terminal type is 32xxKN. (The terminal type is set from the ISPF main menu.) For this terminal type, the installation panels are displayed in uppercase letters.

Installation Modes

The installation system offers the following installation modes for most products:

- *Basic* installation limits the number of panels that you see. Only common installation panels and option panels requiring user input are displayed. These panels use the default values that BMC Software provides.
- *Advanced* installation displays common installation panels and all option panels for each product. This mode allows you the most flexibility in setting up the components of the products, from file and database names to file sizes and product-execution parameters.

Distribution Methods

BMC Software offers the following methods of product distribution:

- electronic software distribution (ESD)
- tape distribution

Electronic Software Distribution

ESD allows you to use File Transfer Protocol (FTP) to download product files to your site from a server at BMC Software for subsequent installation. You can specify the products and solutions that you want to download, and you will receive the following items:

- base installation system files
- product and solution files
- installation instructions

Instructions about this process are described in “Downloading Base Installation Libraries from the ESD Site” on page 3-3.

Tape Distribution

Every product shipment includes the following items:

- base installation (BMI) tape containing the ISPF panels and programs necessary to unload and customize BMC Software products and solutions

Note: The BMI tape is necessary to merge products from multiple tapes. To install products from a single tape, the BMI tape is not necessary. The BMI tape can also be used to initiate an FTP download from the ESD site.

- one or more product tapes containing BMC Software products and customization steps that are required by the products

Note: Installation libraries are also included on product tapes and can be used for a one-tape installation when all required products reside on a single tape. Tape merging requires the BMI tape unload procedures.

Installation Methods

BMC Software supports Standard (IEBCOPY) installation and System Modification Program Extended (SMP/E) installation.

Standard Installation

The Standard installation method is a packaging option that allows you to install your products and prepare them for maintenance in significantly less time than a typical SMP/E installation and maintenance procedure. If you choose the Standard installation, you do not need SMP/E experience.

Standard distribution sets contain files for unloading, customizing, and executing products. Some products also include jobs for setting up an optional SMP/E maintenance environment.

SMP/E Installation

The SMP/E method is a product installation and maintenance program that BMC Software supports to comply with customer requirements. SMP/E is an IBM® packaging program that installs and services any software that is packaged as a system modification or SYSMOD. Using SMP/E requires SMP/E skills and takes more time and effort than a Standard installation. CPU processing time and resource requirements to install a product with SMP/E are extensive.

SMP/E product distribution files contains modification control statements (MCSs) and relative files (RELFILES) for SMP/E product installation and maintenance.

Installation Considerations

This section describes options for installing and maintaining BMC Software products. It helps you determine which product installation method (Standard or SMP/E) is appropriate for your site's installation and maintenance goals.

The method that you choose should suit your product configuration needs, while requiring the least amount of time and effort to install your products. To help you choose the best method, you should determine the following things:

- which BMC Software products are installed at your site
- which BMC Software products you plan to trial or add to your installation
- maintenance level of each BMC Software product that is installed at your site
- time and effort that is required for product customization
- installer's knowledge of SMP/E procedures and terminology

Installing All New BMC Software Products

If you are installing all new BMC Software products for the first time, you can choose one of the following installation methods:

- order Standard distribution media containing any combination of BMC Software products.

Note: All products are at current maintenance levels.

- order SMP/E distribution media containing any combination of BMC Software products.

Products are installed by using standard SMP/E procedures. A cumulative maintenance tape is shipped with the SMP/E product tapes.

Installing Trial BMC Software Products with Existing BMC Software Products

If BMC Software products are installed at your site and you are planning to install a trial version of one or more new BMC Software products, you can choose one of the following installation methods:

- order Standard distribution media containing the new products for trial, install the products, and run them with existing products on the same CPU
- order SMP/E distribution media containing the new products, and install the product in your existing SMP/E data sets
- order Standard distribution media containing your existing products and new products

Note: Product installation is faster than with SMP/E procedures. All products are at current maintenance levels.

- order SMP/E distribution media containing the new products, install the products in separate SMP/E data sets and run new and existing products concurrently on the same CPU

If you decide to license the new products after the trial, you can use the same SMP/E distribution files to install the products in SMP/E data sets containing the existing products.

Applying Maintenance to Existing BMC Software Products

If BMC Software products are installed at your site and you want to update the products to current maintenance levels, you can choose one of the following installation methods:

- order a Standard product tape containing any combination of products to replace your existing products

Note: Product installation is faster than with SMP/E procedures. All products are at current maintenance levels. All existing products must be customized again.

- apply maintenance by using program update tapes (PUT) files

Tip: If you have many existing products, you should apply maintenance with PUT files and SMP/E procedures. The effort that is required to apply SMP/E-formatted maintenance is normally less than the effort that is required to customize the products again.

Product Maintenance Distribution Files

BMC Software maintenance distribution files update BMC Software products that are installed with Standard or SMP/E methods. These maintenance files contain the following items:

- authorized problem analysis reports (APARs)
- program temporary fixes (PTFs)

APARs and PTFs are written to repair a product defect or add an enhancement.

BMC Software provides the following types of maintenance files:

- candidate maintenance files (CAND)
- program update files (PUT)
- cumulative maintenance files (CUM)

The maintenance file types are discussed in the following sections.

CAND Files

CAND files are distributed only on tape media and contain candidate PTFs, APARs, and HOLD data. Candidate maintenance addresses specific problems that can be applied and verified selectively by a customer. The CAND tape is updated weekly.

PUT Files

PUT files are distributed on tape and by electronic download. These program update files contain verified PTFs, APARs, and HOLD data. BMC Software has tested these PTFs and APARs and has verified that they perform as designed.

BMC Software supports the following PUT tape distribution options:

- upon customer request
- automatically, every second month
- automatically, twice per year

To request a PUT tape, call BMC Software Customer Support or send an e-mail message to **support@bmc.com** with your contact information.

To register for either automatic option, send an e-mail message to **product_distribution@bmc.com**.

Provide the following information in your request:

- PUT tape frequency requested (bimonthly or semi-annually)
- contact name
- company
- e-mail address
- shipping address
- business telephone number

Current PUT files are downloaded automatically from the ESD site when you download the base installation libraries as described on page 3-3.

CUM Files

CUM files contain recent, generally available (GA) fixes that have not yet been merged into their base functions. CUM files apply only to SMP/E installation and are used to supplement SMP/E installations.

The cumulative maintenance files may be updated in the following situations:

- when new PUT files are created

All PTFs and APARs in the PUT files are added to the cumulative maintenance files. However, if an APAR is incorporated into a maintenance update concurrently with the creation of PUT files, that APAR is not added to the cumulative maintenance files.

- when a new product release is made GA

All PTFs and APARs that are required for creating the GA level of the product are added to the cumulative maintenance files. However, if an APAR is incorporated into a maintenance update concurrently with the release of a new product, that APAR is not added to the cumulative maintenance files.

- when a severe product defect requiring an immediate fix is identified

These types of fixes are called HIPER (High Impact/PERvasive). HIPER PTFs and APARs are added to the cumulative maintenance files as soon as they are verified by BMC Software customers.

Current CUM files are downloaded automatically from the ESD site when you download the base installation libraries as described in “Downloading Base Installation Libraries from the ESD Site” on page 3-3.

Conventions

| This section describes conventions that BMC Software uses during the software installation process.

Making Selections

Throughout the installation system you are requested to make selections on dialog panels. Unless otherwise stated, you select an item by typing the “forward slash” character (/) or the character s in the appropriate space near the item, then pressing **Enter** to continue.

Keys and Commands

The installation system panels can provide messages at the bottom to indicate which function keys are active. By default, the active function keys are not displayed. To display the active keys, type the ISPF command **PFSHOW** on the command line and press **Enter**.

Note: Some installation system panels use every available line of a panel to display input variables. To display all variables, enter the ISPF command **PFSHOW OFF** on the command line.

You can use the following commands and function keys to help you move through the installation system panels:

- **HELP** or **F1** displays the Help panel for the current panel.
- **END** or **F3** *does not save changes* and returns to the installation system Main Menu.
- **CANCEL** or **F12** *saves any changes* and returns to the previous panel.
- **Enter** accepts the defaults or changes and continues to the next panel.

Note: You enter commands on the ISPF command line.

The following function keys help you navigate the installation system Help panels:

- **F3** exits the Help panel and returns to the current dialog panel.
- **F12** returns to the previous page of a multiple-page Help panel.
- **Enter** continues to the next page of a multiple-page Help panel.

Data Set Names

The installation system uses ISPF conventions when it is processing data set names. When you specify a data set name, the installation system determines whether the TSO/E PROFILE NOPREFIX option is in use. If the option is in use, the installation system does not append a prefix to the data set name. The maximum length for data set names is 44 characters, including the prefix (if one is used).

Symbolic Variables

The installation system frequently uses symbolic variables in data set names, data set prefixes, and job-statement information. A symbolic variable is a variable name with an ampersand (&) prefix. In the installation system, most symbolic variables are related to keyword values that you specify in the product options.

While the installation system is assembling product options, macro processing tries to resolve all symbolic variables in the listing. Most symbolic variables are resolved when JCL is generated from a BMC Software product. To prevent errors, the installation system doubles the ampersand for all symbolic variables when necessary.

The double-character rule also applies to the following characters:

- single quotation marks within literal values if the literal is enclosed with delimiting single quotation marks
- a period if the literal immediately follows a variable name

The following table illustrates the use of double characters:

Variable	Result
&&	&
''	'
..	.

Volume Serial Number Identification

Every tape is identified by a unique volume serial number (VOLSER). The VOLSER is printed on the tape label and is encoded electronically on the tape. The VOLSER has the form *xxayyy* where

- *xx* is the tape code.
- *a* indicates the tape installation format as follows:
 - P is an SMP/E tape.
 - S is a Standard tape.
- *yyy* is a unique identifier.

Naming Conventions for Product Packaging

BMC Software naming conventions classify product components while allowing for future expansion. The conventions reflect product line organization and classify machine-readable data that is used during installation as SMP/E setup, product installation, or product-specific information.

BMC Software classifies system modifications (SYSMODs) by product line and type. The name is seven characters and is formed as *Btpffvv* or *Btpnnnn*, where

- *B* represents BMC Software.
- *t* indicates the SYSMOD type as follows:

Value for <i>t</i>	SYSMOD Type
B	Function
A	APAR
P	PTF

- *p* indicates the product line.
- *ff* is a two-character identifier that is used only for a function SYSMOD.
- *vv* is a two-digit version number that is used only for a function SYSMOD.
- *nnnn* is an APAR or PTF number within the product line.

Note: The letters *C*, *D*, *E*, and *F* are reserved for future APAR SYSMOD use. The letters *Q* and *R* are reserved for future PTF SYSMOD use.

The following examples show the types of SYSMODs:

- *B* (in the second character position) indicates function SYSMODs.

Examples: BBBBX16 and BBIBA26

- *A* (in the second character position) indicates APAR SYSMODs.

Examples: BAB0001 and BAI0002

- *P* (in the second character position) indicates PTF SYSMODs.

Examples: BPB0123 and BPI0456

Naming Conventions for Standard and SMP/E Media Sets

This section describes the BMC Software naming conventions that are used for product distribution sets. These names are used on the distribution files. Naming conventions are required to avoid conflicts between system and product data sets.

The following conventions apply to Standard and SMP/E data sets:

Data Set Name Variable	Description
<i>tlibname</i>	target or runtime library DD or DDDEF name
<i>dlibname</i>	distribution or maintenance library DD or DDDEF name
<i>ppp</i>	three-letter product code
<i>Rnnn</i>	release number
<i>ffname</i>	function name
<i>ppprrr</i>	three-letter product code and release number

Note: Uppercase characters represent literal character strings. Lowercase characters (which are also italicized) represent variables. The \$ prefix identifies data sets that require special handling.

The release numbers in the preceding descriptions can include a combination of one-digit or two-digit version, release, and modification levels. All of the numbers in the version, release, and modification number are used in the data set naming conventions. For example, version 1.1.00 would be shown as 1100.

Standard Installation Data Sets

BMC Software identifies product data sets for a Standard installation as shown in the following examples:

- BMC.*ppprrr.tlibname*
- BMC.*ppprrr.dlibname*
- BMC.*ppprrr.UCLIN.DLIB.CSI*
- BMC.*ppprrr.UCLIN.TARGET.CSI*

SMP/E Tape Data Sets

BMC Software identifies product data sets for an SMP/E installation as shown in the following examples:

- SMPMCS
- BMC.*ffname*.Fnn

To use the high-level qualifier *BMC*, the RFDSNPFX parameter is required in the header for the SMPMCS of all product FMIDs.

Chapter 2 Preparing for Installation

This chapter contains the following topics:

Installation Preparation Overview	2-2
Using the Installation Checklist Generator	2-2
Features of the Installation Checklist Generator	2-2
Running the Installation Checklist Generator	2-3
Using a Worksheet (<i>optional</i>)	2-3
Obtaining Product Passwords	2-4
Determining Space Requirements	2-4

Installation Preparation Overview

BMC Software provides a dynamic checklist generator to help with your installation planning and organization. Many products also include printed worksheets that identify installation requirements.

Review the cover letter and release notes that are shipped with your product for password information, system requirements, and other information that you will need before proceeding with the installation.

Using the Installation Checklist Generator

To prepare for installing your BMC Software products, use the Installation Checklist Generator utility, which is available on your documentation CD or the BMC Software Web site.

Note: The Installation Checklist Generator does not support all BMC Software products. To verify support, refer to the cover letter in your product shipment.

Features of the Installation Checklist Generator

The Installation Checklist Generator allows you to select a set of BMC Software products and produce an integrated checklist that outlines each step you need to complete for a successful installation.

The checklist provides

- preparation steps you need to complete and the items you need to assemble before you start the installation process
- installation tasks that will help you run the installation system to successfully complete the installation process
- customization tasks that you must complete to get your product running

Note: Some products use a customization utility that you run from the installation utility, on its own, or both. Some products describe the customization tasks you need to perform within the product-specific documentation.

Each checklist also provides references to additional information for each task.

Running the Installation Checklist Generator

Note: The Installation Checklist Generator runs with Microsoft Internet Explorer 4 or later, and Netscape Navigator versions 4.08 through 4.78, inclusive.

You can run the Installation Checklist Generator in the following ways:

- From the BMC Software Web site (which provides the most current information):
 1. Visit the OS/390 and z/OS Installer page on the BMC Software Web site at http://www.bmc.com/support/bmcsoftware_install.
 2. Log on and click the link for the Installation Checklist Generator.

To log on, first-time users can request a user name and password by registering at the support page; you can request a temporary user name and password from your BMC Software sales representative.

- From the documentation CD:
 1. View the contents of your documentation CD in Windows Explorer.
 2. Double-click the name of the documentation launch file (as described on the CD insert).
 3. Click the link for the Installation Checklist Generator, as displayed in the launch file.

Using a Worksheet *(optional)*

Another resource for installation planning is the product-specific installation worksheet, which is included in some products' customization guides. The worksheet contains a list of information you need to gather or decisions you should make before beginning the installation and customization process, such as

- the high-level qualifier for data set names
- installation library and data set names
- installation JCL information
- the names of databases

Refer to the product-specific customization guide to see if the product you are installing includes a worksheet.

Obtaining Product Passwords

To activate a BMC Software product, you need to use the password for your product. A Product Authorization Letter is included in your product shipment.

The installation system offers three ways to establish license authority to access and use BMC Software products:

- Review and edit the Product Authorization JCL that is packaged and unloaded with products, and submit the JCL outside of the installation system operation.
- Establish license authority within the installation system product customization feature.
- Access the Product Authorization option from the installation system Additional Options Menu. This option invokes the BMC Software Security Facility which is fully documented in Appendix A, “BMC Software Product Authorization.”

Note: Some BMC Software products can be authorized only during the product customization process.

Information about product authorization is included in product technical bulletins and release notes.

Determining Space Requirements

During the unload process, the installation system determines space requirements and automatically allocates various data sets according to the products that you selected for installation. The installation system displays the total space requirements for all products you selected.

You have the opportunity to increase the allocation for any or all data set types. You can specifically increase the allocation for any data set type, or you can specify that a percentage increase be applied to all data set allocations. You may not decrease space allocations.

Chapter 3 Using the Installation System

This chapter contains the following topics:

Getting Started	3-2
Downloading Base Installation Libraries from the ESD Site.	3-3
Unloading Base Installation Libraries from the Distribution Tape . .	3-7
Creating a Customized Installation Library	3-12
Running the Installation System	3-17
Starting the Installation System	3-18
Managing Profiles	3-20
Specifying User Options	3-23
Generating Installation JCL	3-25
Customizing Products	3-28
Customizing Products with Standard Customization.	3-29
Customizing Products with AutoCustomization	3-31
Performing Other Installation Tasks	3-37
Generating Jobs to Perform SMP/E Maintenance	3-38
Managing Product Licenses	3-41
Product Cloning	3-43
Cancelling the Installation	3-45

Getting Started

Before running the installation system, you must first download the base installation libraries from the distribution media and create an installation environment, as follows:

1. Download or unload the base installation libraries from one of the following sources:

- BMC Software Electronic Software Distribution (ESD) site

Instructions about this process are described in “Downloading Base Installation Libraries from the ESD Site” on page 3-3 and are located in the **readme.htm** file at the ESD site.

- distribution tape

Create and submit the initial JCL that unloads the libraries as described in “Unloading Base Installation Libraries from the Distribution Tape” on page 3-7. You can model your initial unload JCL after the example in Figure 3-2 on page 3-9 or Figure 3-3 on page 3-11.

2. Execute the REXX exec (included in the base installation libraries) that invokes the installation system to set up your customized installation library. This task is described in “Creating a Customized Installation Library” on page 3-12.

When you have performed these steps, you are ready to install and customize products or to apply maintenance to products.

Downloading Base Installation Libraries from the ESD Site

Summary: The base installation libraries comprise an installation library and a load library. These libraries are required for initiating the installation system. Use this procedure to download the base installation libraries from the BMC Software ESD site.

This section describes two procedures to download the compressed base installation libraries from the BMC Software ESD site:

- To download the libraries directly to your mainframe computer, follow the procedure “To Download Files Directly to the Mainframe by Using FTP.”
- To download the libraries first to your personal computer, then to your mainframe, follow the procedure “To Transfer Files by Using Your Personal Computer and a Web Browser.”

Note: This procedure downloads files that you use only during installation. It does not download any product files.

Before You Begin

Complete the following tasks:

- Obtain a user ID and password to gain access to the BMC Software Electronic Software Distribution (ESD) site and to initiate an FTP transfer from the site. You can request this information from your BMC Software sales representative.
- Your BMC Software sales representative will inform you of any special requirements for accessing and downloading products and solutions. All products require authorization before they can be run.
- You must obtain additional documents to ensure successful installation and customization of BMC Software products and solutions. You can request printed books or a CD containing the documents from your BMC Software sales representative. You can also view, download, or order documents from the BMC Software Web site.

Review all release notes, technical bulletins, and flashes that are associated with your products.

- Back up your current version of the products. Copy and save your current installation and product libraries.

To Download Files Directly to the Mainframe by Using FTP

Step 1 Create a batch job that is similar to the sample in Figure 3-1 on page 3-5:

1.A Ensure that the JCL is unnumbered; FTP reads all 80 characters.

1.B Set **CAPS OFF** and **NUM OFF**.

1.C Customize the JOBCARD to comply with your site's requirements.

Note: A REGION parameter value of 0M is required for this job.

1.D Change boldface text in the INPUT DD section as follows:

Warning! The FTP server is case sensitive. All data in the INPUT DD section must be entered in lowercase characters.

- Enter the **userid** and **password** that you obtained from BMC Software.
- Enter the **unit** parameter.
- *(optional)* Enter **volume** and **sms** parameters.

Note: If these parameters are not used, delete the entire line; do not leave blank lines in the JCL.

- Change **nnnn** to the version number that is listed on the ESD site for the OZI binary image file.

- Change **new data set name** to a valid data set name for your site.

Note: This data set should not already exist; the data set is created when the binary image file is downloaded.

- Make any additional changes that are required by your site to get outside your firewall.

Step 2 Submit the JCL to download the compressed libraries.

Step 3 After the job completes successfully, edit the downloaded data set according to the instructions in the file.

Step 4 Submit the edited JCL to decompress the base installation libraries.

Note: If you have adequate space allocated for your TSO session, you can submit the JCL from within the member. Otherwise, save your changes, exit the data set, and submit the data set (JCL) externally.

Figure 3-1 Sample FTP Download Job for the Base Installation Libraries

```
//JOB_NAME JOB (ACCOUNT), 'USER COMMENT',
//              CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,
//              REGION=0M,NOTIFY=&SYSUID
//FTPGET EXEC PGM=FTP,REGION=5120K,
//              PARM='ftp.bmc.com (timeout 720 exit=8'
//SYSMDUMP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//OUTPUT DD SYSOUT=*
//INPUT DD *
userid password
cd bmc/esd/ozi
binary
locsite rec=fb lr=80 blk=6160
locsite cy pri=20 sec=2
locsite u=unit
locsite vol=volume
locsite stor=sms_storage_class
locsite mg=sms_management_class
locsite data=sms_data_class
get bmcozi-vnnnn-image.bin +
    'new data set name'
quit
/*
//
```

To Transfer Files by Using Your Personal Computer and a Web Browser

Step 1 Using your browser, copy the file **bmcozi-vnnnn-image.bin** to your personal computer desktop.

Step 2 Copy the file from your personal computer to your mainframe by using a transfer program of your choice.

Note: The file transfer must meet the following requirements:

- The transfer must be binary.
- The data set on the mainframe must be a Fixed Block 80 sequential file.
- The primary allocation must be set to 20 cylinders, and the secondary allocation must be set to 2 cylinders.

Step 3 After the transfer completes successfully, edit the downloaded data set according to the instructions in the file.

Step 4 Submit the edited JCL to decompress the base installation libraries.

Note: If you have adequate space allocated for your TSO session, you can submit the JCL from within the member. Otherwise, save your changes, exit the data set, and submit the data set (JCL) externally.

Where to Go from Here

When you have downloaded and uncompressed the base installation libraries, you are ready to create a customized installation library. See “Creating a Customized Installation Library” on page 3-12.

Unloading Base Installation Libraries from the Distribution Tape

Summary: The base installation libraries comprise an installation library and a load library. These libraries are required for initiating the installation system. Use this procedure to unload the base installation libraries from tape.

Note: This procedure unloads files that you use only during installation. It does not unload any product files.

If you plan to install products from more than one product distribution tape, or if your products require shared technologies from the common components tape or an infrastructure tape, you must unload the base installation libraries from the base installation (BMI) tape that is included in your product shipment (or you can download the base installation libraries from the ESD site). Follow the procedure “To Unload Installation Libraries from the Base Installation (BMI) Tape” on page 3-8.

If all the products that you will install are included on one product tape, and no product requires information from the common components tape or an infrastructure tape, you can simplify the installation procedure by using the installation libraries that are contained on that product tape. Follow the procedure “To Unload Installation Libraries from a Product Tape” on page 3-10.

Warning! The installation libraries that are included on a product tape are specialized to install products from that tape only. To merge products from different tapes into a single load library, you must use the installation libraries from the BMI tape.

If you received a common components tape or one or more infrastructure tapes with your product, you must use the installation libraries from the BMI tape.

Before You Begin

Consider the following information:

- Review the release notes, technical bulletins, and flashes that are included with the product. These notices contain additional information about the products on the media, including information that might have been added after this book was published.
- Back up your current version of products before you begin the installation process. Copy and save your current installation and product libraries.

- BMC Software recommends that you use unique plan names, table names, repository names, and qualifier names.

Tip: If you have a compact disc drive available, locate this installation guide on the documentation CD that was included in this product shipment. You can copy Figure 3-2 or Figure 3-3 into the job that you create in the unload procedure. Correct spacing and other transferred errors.

To Unload Installation Libraries from the Base Installation (BMI) Tape

Use this procedure if you plan to install products from more than one product distribution tape.

Warning! You must unload installation libraries from the base installation tape (BMI) if the products you are installing require shared technologies from the common components tape or an infrastructure tape.

Step 1 Create a batch job, similar to the one shown in Figure 3-2 that copies two files from the base installation tape:

1.A Unload File 1 into the load library that the installation system will use (for example, BMC.INSTALL.LOAD).

1.B Unload File 2 into a partitioned data set (PDS, not PDSE) with the low-level qualifier INSTALL (for example, BMC.INSTALL).

Note: In Figure 3-2, the variable *BMIymd* represents the base installation tape VOLSER. The variable *hlq* is the high-level qualifier that you chose in Step 1.A and Step 1.B. Modify the job card information according to your site's requirements.

Figure 3-2 Installation Libraries Unload Job (BMI Tape)

```
//JOB_NAME JOB (account), 'USER COMMENT',
//          CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,
//          REGION=0M,NOTIFY=&SYSUID
//UNLOAD    EXEC PGM=IEBCOPY
//SYSPRINT  DD SYSOUT=*
//SYSUT3    DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//SYSUT4    DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//BMCTLOAD  DD DSN=BMC.INSTALL.LOAD,DISP=OLD,VOL=SER=BMImd,
//          UNIT=TAPE,LABEL=(1,SL,EXPDT=98000)
//*
//BMCTINST  DD DSN=BMC.INSTALL,DISP=OLD,VOL=SER=BMImd,
//          UNIT=AFF=BMCTLOAD,LABEL=(2,SL,EXPDT=98000)
//*
//BMCILOAD  DD DISP=(,CATLG,DELETE),DSN=hlg.INSTALL.LOAD,
//          UNIT=SYSDA,SPACE=(CYL,(45,5,100)),
//          DCB=(RECFM=U,BLKSIZE=23476)
//*
//BMCIINST  DD DISP=(,CATLG,DELETE),DSN=hlg.INSTALL,
//          UNIT=SYSDA,SPACE=(CYL,(20,5,200)),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//*
//SYSIN     DD *
COPY       I=BMCTLOAD,O=BMCILOAD
COPY       I=BMCTINST,O=BMCIINST
```

Step 2 Submit the batch job.

The base installation libraries are unloaded.

To Unload Installation Libraries from a Product Tape

Use this procedure only if all the products that you will install are included on one product tape.

Warning! You must unload installation libraries from the base installation tape (BMI) if the products you are installing require shared technologies from the common components tape or an infrastructure tape.

Step 1 Create a batch job, similar to the one shown in Figure 3-3, that copies two installation files from a product tape:

1.A Unload File 1 into the load library that the installation system will use (for example, BMC.LITE.INSTALL.LOAD).

1.B Unload File 2 into a partitioned data set (PDS, not PDSE) with the low-level qualifier INSTALL (for example, BMC.LITE.INSTALL).

Note: In Figure 3-3, the variable *xxxymd* represents the product tape VOLSER. The variable *hlq* is the high-level qualifier that you chose in Step 1.A and Step 1.B. Modify the job card information according to your site's requirements.

Figure 3-3 Installation Libraries Unload Job (Product Tape)

```
//JOB_NAME JOB (account), 'USER COMMENT',
//          CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,
//          REGION=0M,NOTIFY=&SYSUID
//UNLOAD    EXEC PGM=IEBCOPY
//SYSPRINT  DD SYSOUT=*
//SYSUT3    DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//SYSUT4    DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//BMCTLOAD  DD DSN=BMC.LITE.INSTALL.LOAD,DISP=OLD,VOL=SER=xxxymd,
//          UNIT=TAPE,LABEL=(1,SL,EXPDT=98000)
//*
//BMCTINST  DD DSN=BMC.LITE.INSTALL,DISP=OLD,VOL=SER=xxxymd,
//          UNIT=AFF=BMCTLOAD,LABEL=(2,SL,EXPDT=98000)
//*
//BMCILOAD  DD DISP=(,CATLG,DELETE),DSN=hlq.LITE.INSTALL.LOAD,
//          UNIT=SYSDA,SPACE=(CYL,(45,5,400)),
//          DCB=(RECFM=U,BLKSIZE=23476)
//*
//BMCIINST  DD DISP=(,CATLG,DELETE),DSN=hlq.LITE.INSTALL,
//          UNIT=SYSDA,SPACE=(CYL,(35,5,400)),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//*
//SYSIN     DD *
COPY       I=BMCTLOAD,O=BMCILOAD
COPY       I=BMCTINST,O=BMCIINST
```

Step 2 Submit the batch job.

The base installation libraries are unloaded.

Where to Go from Here

When you have unloaded the base installation libraries, you are ready to create a customized installation library. See “Creating a Customized Installation Library” on page 3-12.

Creating a Customized Installation Library

Summary: When you have unloaded the installation library and the load library from the base installation media, you must create a site-specific installation environment called the customized installation library. You can do this by running a REXX exec that starts the installation system. The installation system creates the customized installation library. You can run the REXX exec from the TSO Commands panel. (This panel is displayed if you choose the Command option from the ISPF/PDF Primary Option menu.) You can also run the REXX exec from any ISPF command line.

Note: In this procedure, the variable *hlq* is the high-level qualifier that you assigned to the INSTALL data set when you unloaded the base installation libraries.

Before You Begin

Unload the base installation libraries by completing the steps in “Downloading Base Installation Libraries from the ESD Site” on page 3-3, or by completing the steps in “Unloading Base Installation Libraries from the Distribution Tape” on page 3-7.

Note: To avoid merge error ISPS105 (invalid keyword) when submitting installation JCL to merge product tapes and when running the BMCINSTL REXX exec, set the disposition of your ISPPROF or ISRPROF data set to shared (DISP=SHR) in your logon procedure to allow batch TSO to update the data set.

To Start the Installation System

Step 1 Execute the installation system from the TSO Commands panel.

A command line option displays a setup panel which allows you to specify the names and locations of temporary data sets used during the installation.

Warning! If you are using SMS managed data sets, you must use the setup option.

- To execute the installation system without the setup option, type the following command:

EX 'hlq.INSTALL(BMCINSTL)'

For example, the following command uses the high-level qualifier BMC.BMCI:

EX 'BMC.BMCI.INSTALL(BMCINSTL)'

- To execute the installation system with the setup option, type the following command:

EX 'hlq.INSTALL(BMCINSTL)' 'SETUP'

Step 2 When the Setup Options panel (Figure 3-4) is displayed, provide the necessary information and press **Enter**.

Figure 3-4 Setup Options Panel

BMC Software Install System Setup Options

Command ==> _____

During the installation process, the install system will allocate some temporary data sets to complete the install process. The install system will default the high level qualifier (HLQ) of those data sets to your TSO userid. If another HLQ is desired, then it should be entered below with any other relevant data set requirements.

Temporary Data Set HLQ _____ (25 char. max)

Temporary Storage Class . . . _____ (Specify Value if Required for SMS)

Temporary Management Class . . _____ (Specify Value if Required for SMS)

Temporary Data Class _____ (Specify Value if Required for SMS)

Temporary Unit SYSALLDA

Temporary VOLSER _____

Reuse Previously Used Application-ID (\$BMC) from the Install Library Y (Y/N)

Press Enter to continue.

Tip: BMC Software recommends that you use a unique high-level qualifier.

The BMC Software Installation Configuration panel (Figure 3-5) is displayed. The Setup New Customized Installation Library option is preselected.

Figure 3-5 Initial Installation Configuration Panel

```

BMC Software Installation Configuration V1.3.02 Initial Menu
Command ==> _____

Welcome to the BMC Software Installation and Customization System.  The first
step of this process is the setup of a Customized Installation Library.  It
is from within this library that you will unload, customize, and maintain the
BMC Software products and solutions that you have purchased.

The Installation System has determined that you are using this process for the
first time and has preselected the Setup option for you.

                                Press Enter to continue.

                                S  Setup New Customized Installation Library

Install notes:  F1=Help, F3=Exit, F12=Previous Panel
                Selection is by / or S unless panel states otherwise

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```

Step 3 To continue, press **Enter**.

The system displays the Distribution and Installation Methods panel (Figure 3-6).

Figure 3-6 Distribution and Installation Methods Panel

```

Select Distribution and Installation Methods
Command ==> _____

The BMC Software Installation process allows for products and solutions to be
distributed and installed from multiple distribution and installation methods.

Select the Distribution Method preferred for the BMC Software
products and solutions being received.

    _ Electronic - Electronic Software Distribution
    _ Tape       - 3480 Cartridge Distribution

Select the Installation Method required for the BMC Software
products and solutions being received.

    _ Standard - Standard Installation
    _ SMP/E    - System Modification Program Installation

```


Step 4 Select the distribution method that you prefer.

- *Electronic* generates JCL that will download products from the BMC Software ESD site.

Note: The BMC Software ESD site is password protected. The installation system will prompt you for a user ID and password when you initiate the electronic download procedure. Contact your BMC Software sales representative or Customer Support for a valid user ID and password.

- *Tape* generates JCL that will unload products from one or more distributions tapes.

Step 5 Select the installation method that will be performed.

- *Standard* generates JCL to perform an IEBCOPY installation.
- *SMP/E* generates JCL to perform a System Modification Program installation.

Warning! You must specify the installation method that you ordered from BMC Software. If you indicate the wrong method, your installation will not be successful.

Step 6 Press **Enter** to continue.

Step 7 Specify a name for your customized installation library and provide job card information as requested. Press **Enter**.

Step 8 Specify the VOLSERS for your product distribution tapes, and press **Enter**.

The system displays the JCL that creates your customized installation library. Review the comments at the beginning of this job.

Step 9 Submit the JCL.

The customized installation library is created.

Note: To end this procedure and return to the initial panel, press **F3**.

Where to Go from Here

When you have created your customized installation library, you are ready to run the installation system. See “Running the Installation System” on page 3-17.

Running the Installation System

When you have created your customized installation library, you can run the installation system to perform installation tasks such as:

- unloading products from the distribution media
- customizing products for execution on your system
- applying maintenance to enhance functionality and correct problems
- establishing password authority to run the installed products
- cloning products to run on subsystems within your environment

The installation system also allows you to customize the installation process and save installation variables in profiles. You can retrieve these profiles for subsequent installations and restarts.

You start the system from an ISPF command procedure. If you used the same high-level qualifier for the installation library and the load library when they were unloaded from the base installation tape, the installation system will determine the location of the appropriate load library. Otherwise, you will be prompted for the name of the load library that was delivered with the installation system.

Starting the Installation System

Summary: Use this procedure to start the installation system and display the Main Menu, which provides access to the primary functions that are available.

Before You Begin

Complete the following tasks:

- unload the installation system, as described in “Unloading Base Installation Libraries from the Distribution Tape” on page 3-7 or “Downloading Base Installation Libraries from the ESD Site” on page 3-3
- create a customized installation library, as described in “Creating a Customized Installation Library” on page 3-12

The installation system uses the ZUSER symbolic to create temporary data sets for the installation process and to identify the installer in the comments of the installation JCL. If you prefer to use ZPREFIX instead of ZUSER, you must edit member *HLQ*.INSTALL (BMICX00). In member BMICX00, find the keyword UNCOMMENT and follow the instructions that are provided.

To Start the Installation System

- Step 1** From the Installation Configuration Initial Menu (Figure 3-7), choose Install and Customize Products and Solutions.
- Step 2** Press **Enter**.

Figure 3-7 Installation Configuration Initial Menu

```

BMC Software Installation Configuration V1.3.02 Initial Menu
Command ==> _____

Welcome to the BMC Software Installation and Customization System. The first
step of this process is the setup of a Customized Installation Library. It
is from within this library that you will unload, customize, and maintain the
BMC Software products and solutions that you have purchased.

If you are executing this process for the first time for this release,
select setup to create a new Customized Installation Library. Otherwise,
select to Install and Customize your BMC Software Products and Solutions.

Select an option then press Enter to continue.

_ Setup New Customized Installation Library
S Install and Customize Products and Solutions

Install notes: F1=Help, F3=Exit, F12=Previous Panel
Selection is by / or S unless panel states otherwise

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```

The installation system displays the Main Menu (Figure 3-8).

Figure 3-8 Installation System Main Menu

```

BMC Software Installation System V1.3.02 - Main Menu
Command ==> _____

Manage Repository/Profile option preselected. Press Enter to continue.

/ Manage Repository/Profile Create, Browse, Copy or Delete Existing Profile.

User Options                Specify User Parameters for Installation.

Product Install             Specify Product(s) to Unload.

Product Customization       Specify Product(s) to Customize.

Additional Options          Product Cloning, Maintenance, Security, etc...

CICS, DB2, IBM, IMS and MVS are registered trademarks of International
Business Machines Corp.

```

Where to Go from Here

You are now ready to perform installation system functions. If you are running the installation system for the first time, you must create a profile repository before you can proceed with other functions. See “Managing Profiles” on page 3-20.

Managing Profiles

Summary: This procedure describes how to create a repository for storing installation profile information. A profile is a data set containing installation variables and customization options. The Profile Management feature allows you to reuse profiles created earlier by the OS/390 and z/OS Installer.

Before You Begin

Start the installation system, as described in “Starting the Installation System” on page 3-18.

To Create a Profile Repository

Step 1 From the installation system Main Menu, choose Manage Repository/Profile and press **Enter**.

Note: If you are running the installation system for the first time, Manage Repository/Profile is the only selection that is available from the Main Menu.

The system displays the Repository/Profile Options menu (Figure 3-9).

Figure 3-9 Repository/Profile Options Menu

```

BMC Software Install Repository/Profile Options
Command ====> _____

Change options as necessary. Press Enter to continue.

Repository Data Set . . . . . HLQ.CUSTOMER.DEFINED.BMCREPO
Repository Storage Class . . . _____ (Specify Value if Required for SMS)
Repository Management Class . . _____ (Specify Value if Required for SMS)
Repository Data Class . . . . . _____ (Specify Value if Required for SMS)
Repository Unit . . . . . _____ (Blank to use Installation Unit)
Repository VOLSER . . . . . _____

Repository Profile ID . . . . . BMCI ID containing Installation Parameters
Profile System Name . . . . . <system ID>
Profile Data Set HLQ . . . . . _____ (30 char. max)
Profile Data Set Description . . _____

Manage Profiles . . . . . Y (Y/N)
Reset Profile ID . . . . . (Y/N) - Function Not Available

Entry Field Delimiter . . . . . 3 (1.Underscore 2.Reverse Video 3.None)

```

Step 2 Specify a repository data set name.

Step 3 (optional) Specify the storage class, management class, and data class for the repository if required for the Storage Management System (SMS).

Step 4 (optional) Specify the repository VOLSER.

Step 5 Specify a repository profile ID for the installation parameters.

The installation system uses the ID that you specify and the suffix *PROF* to form the profile data set low-level qualifier. The ID can be up to four characters. The system stores the profile ID in the following locations:

- output JCL data set that you name when you specify user options
- ISPF profile data set (ISPPROF) that is associated with your user ID
- customized installation library that you created

Warning! If you use an existing profile, you must review the installation parameters carefully. Failure to change the required parameters during the new installation procedure can cause severe errors when you submit the installation JCL. For example, if you do not change a DB2 plan name from a previously specified value, you can overwrite a plan that your current installation uses.

Step 6 Specify a profile data set high-level qualifier and description in the fields that are provided.

Step 7 (optional) Select to Manage Profiles and press **Enter**.

This option lists the profiles that are available in your profile repository (Figure 3-10). The profiles are listed chronologically, beginning with the most recently used profile. You can view, copy, delete, or use any of the listed profiles.

Figure 3-10 Repository Listing

```

----- Repository Listing ----- Row 12 to 20 of 20
COMMAND ==> _____ SCROLL ==> CSR

Profile Libraries found in BMC.TEST.BMCREPO
Enter S or / to view Profile Information
Enter P to Create Print JCL for the Profile Report
Enter C to Create a copy of requested Profile
Enter D to Delete a Profile from the Repository
Enter U to Use a specific profile

```

Sel	Created	Prof	Type	Description	System	Time

—	06/30/2002	BMC1	U	TEST PROFILE	SYSP	:
—	06/30/2002	BMC1	U	TEST PROFILE	SYSP	:
—	06/30/2002	BMC2	U	TEST PROFILE	DB2A	:
—	06/30/2002	AAA2	U	INSTALL CAT MANAGER	DB2A	:
—	06/30/2002	AAA3	C	INSTALL AUTOOPERATOR	DB2A	:
—	06/30/2002	BMC1	C	TEST PROFILE	SYSP	:
—	06/30/2002	BMC1	U	TEST PROFILE	SYSP	:
—	06/30/2002	BMC5	C	TEST PROFILE	SYSO	:
—	06/30/2002	BMC4	C	TEST PROFILE	SYSN	:

After performing profile management functions, you return to the Repository/Profile Options menu.

Step 8 Verify that the values on the Repository/Profile Options menu are correct:

- To make changes, type over any values.
- To save all values and return to the Main Menu, press **Enter**.

Where to Go from Here

When you have created a profile repository, you can specify user options on the Main Menu. See “Specifying User Options” on page 3-23.

Specifying User Options

Summary: This procedure describes how to specify user options that determine how the installation system runs and where it stores the installation JCL. If you are running the installation system for the first time, you must specify parameters before continuing with any task. User options that you specify remain in effect for all subsequent installation tasks until you or someone else changes them.

Before You Begin

Complete the following tasks:

- unload the installation system, as described in “Unloading Base Installation Libraries from the Distribution Tape” on page 3-7 or “Downloading Base Installation Libraries from the ESD Site” on page 3-3
- start the installation system, as described in “Starting the Installation System” on page 3-18
- create a profile repository, as described in “Managing Profiles” on page 3-20

To Specify User Options

Step 1 From the installation system Main Menu, choose User Options and press **Enter**.

Step 2 Select an installation/customization mode:

- *Basic* installation limits the number of panels that are shown for most products to the common installation panels. This mode is useful for installing trials or demonstrations.
- *Advanced* installation displays all of the option panels for each product, in addition to the common installation panels. This mode allows migration from previous releases.

- Step 3** Select a navigation method (for *advanced* installation mode):
- *Automatic Navigation* presents a step-by-step display of required parameters. You must complete one set of parameters before proceeding to the next set. This method is currently preselected.
 - *User Controlled Navigation* is currently not available.
- Step 4** Specify an installation JCL data set to contain the JCL that the installation system generates.
- Note:** Use a data set name of your choice. The output JCL data set contains the following items:
- all jobs that are used to install the selected products
 - most CLISTs that are used to run the selected products (Some products do not require CLISTs in the installation JCL.)
- Warning!** If installation JCL already exists in the specified data set, it is overwritten.
- Step 5** (*optional*) Specify the storage class, management class, and data class for the Installation JCL if required for SMS.
- Step 6** (*optional*) Specify the installation JCL VOLSER.
- Step 7** To save your changes and return to the installation system Main Menu, press **Enter**.

Where to Go from Here

When you have specified user options, you can unload products from the distribution media. See “Generating Installation JCL” on page 3-25.

Generating Installation JCL

Summary: When you have supplied user options, you are ready to select products to unload from the distribution media. This procedure generates installation batch jobs (JCL) that you can review and edit if necessary. Executing the JCL will unload the products that you selected into your environment.

Before You Begin

Complete the following tasks:

- unload the installation system, as described in “Unloading Base Installation Libraries from the Distribution Tape” on page 3-7 or “Downloading Base Installation Libraries from the ESD Site” on page 3-3
- start the installation system, as described in “Starting the Installation System” on page 3-18
- specify user options, as described in “Specifying User Options” on page 3-23

Note: For those products that require SAS/C transient libraries, the installation system optionally unloads version 6.5 of the SAS/C transient library during the unload process.

If you *choose not to* unload the SAS/C library, you must ensure that the SAS/C transient library (version 6.5 or later) exists in the link list.

If you *choose to* unload the SAS/C library, the installation system unloads a copy of the library into the load library that is designated for your BMC Software products.

To Generate the Installation JCL

Step 1 From the installation system Main Menu, choose Product Install and press **Enter**.

Note: If you have previously run the installation system, a Checkpoint panel is displayed. You can start over or you can resume from one of the listed checkpoints.

The Product Selection panel lists all products that are available in the customized installation library which you created when you first ran the installation system.

Step 2 On the Product Selection panel, select the products that you want to install.

Note: If you select to install a BMC Software solution, you may not select to install an individual component product of that solution. A message will inform you that you have selected a product that is already included in a selected solution.

Step 3 To continue, press **Enter**.

A panel displays the products you have selected for installation.

Step 4 Verify that the displayed products are correct.

- If the listed products are correct, press **Enter** to continue.
- If the listed products are not correct, press the **F12** key until you return to the Product Selection panel. Make corrections and continue.

If you selected to install a BMC Software solution, a panel displays the component products in the solution. You have the opportunity to remove component products from the solution.

Warning! Removing a component can result in improper solution performance. BMC Software recommends that you install all solution components.

Step 5 To continue, press **Enter**.

Several panels are displayed, requesting information for each product that you chose in Step 2.

Note: The installation system determines installation requirements based upon products you already have installed. You will be requested to supply the location of some installed products.

Step 6 Supply information for each product as requested. If necessary, modify the displayed value. When you are satisfied with the choices, press **Enter** to continue.

Step 7 Generate the batch jobs to unload the products from the distribution media:

Note: Downloading and uncompressing products from the BMC Software ESD site requires approximately twice the DASD as a tape unload. This space is recovered automatically after the uncompression procedure is complete.

7.A In the JCL Generation Option panel, specify one of the following options:

- Generate installation batch jobs in the data set that you entered in “Specifying User Options” on page 3-23.

Batch jobs that unload the product libraries from the media are generated. If installation batch jobs already exist in the specified data set, they are overwritten. The status of the JCL generation is updated on the panel as it occurs.

- Skip batch-job generation, and display the next panel.

Note: No installation batch jobs are created.

7.B Press **Enter** to generate the batch jobs.

Batch job streams that are used for product installation are created.

7.C When all required jobs have been generated, press **Enter** to display the list of generated jobs.

Review the product documentation for additional installation requirements.

Step 8 Submit the generated JCL to complete the installation:

- If you are performing a Standard installation, see “Running JCL for a Standard Installation” on page 4-2 for information about the JCL that you have generated and instructions for submitting those jobs.
- If you are performing an SMP/E installation, see “Running JCL for an SMP/E Installation” on page 4-8 for information that you must consider before submitting these jobs.

Step 9 To exit the JCL generation process, press **F3**.

Where to Go from Here

You can begin the dialog that generates JCL to customize your products (see “Customizing Products” on page 3-28), or you can return to the installation system Main Menu. In most cases you must perform product customization before the product is ready for execution.

Customizing Products

Customization assigns values to default options and prepares a product for execution. BMC Software supports two customization procedures.

- Standard customization is used to customize products that are not SMP/E enabled.
- AutoCustomization is used to customize products that are SMP/E enabled.

The procedure to customize a product is determined automatically. When you choose to customize products from the Main Menu, available products are displayed in association with the appropriate procedure.

When you select the products to be customized, the dialog will direct you through the Standard customization or the AutoCustomization dialog. If both customization procedures are required for your products, you can choose which procedure to perform first. After completing the procedure, the installation system returns you to the panel of available products where you can choose to continue customization or exit the dialog.

Customizing Products with Standard Customization

Summary: The Standard customization procedure generates JCL that assigns initial operating parameter values to products that are not SMP/E enabled.

Before You Begin

Complete the dialog for unloading your BMC Software products as described in “Generating Installation JCL” on page 3-25.

Note: Review your product's release notes to determine whether there are unique customization requirements. If the release notes do not specify any additional information, follow the steps in this section.

To Customize Installed Products with Standard Customization

Step 1 From the installation system Main Menu, choose Product Customization and press **Enter**.

Note: In addition to the Main Menu, you can enter the customization dialog directly following the dialog to generate installation JCL.

The Product Verification panel lists the products that you selected to install with the appropriate customization procedure. This panel is not displayed if only one customization procedure is required for your products.

Step 2 If prompted, select Standard customization to customize products that are not SMP/E enabled.

The installation system presents a series of panels requesting information about your current system and the products you are installing. Be prepared to supply release levels of installed products, library names and locations, and other information.

Note: If maintenance is available for a product you are installing, you will have the opportunity to apply the maintenance rather than proceeding with a full installation.

Step 3 When prompted, supply the requested information or verify the displayed information. To continue, press **Enter**.

Note: Information requirements are specific to each product that you are installing. Refer to product customization guides for more information.

When you have completed the customization dialog, the Final Tasks panel is displayed.

Step 4 From the Final Tasks panel, select to

- proceed directly to the Product Authorization dialog
- review your customization choices
- generate customization JCL

Step 5 To continue with your Final Task selection, press **Enter**, or press **F3** to return to the Main Menu.

Where to Go from Here

After completing the dialog to generate customization JCL, you can submit the JCL to complete the installation and customization of your BMC Software products as described in Chapter 4, “Running Installation JCL.”

Customizing Products with AutoCustomization

Summary: AutoCustomization assigns the initial operating parameter values to SMP/E-enabled products.

AutoCustomization is an interactive, online ISPF dialog that is provided by BMC Software to customize BMC Software products that are SMP/E-enabled. AutoCustomization minimizes mistakes, propagates information for shared customization steps, allows you to browse steps before you perform them, and marks each step as it is completed.

Note: You can also bypass steps if you prefer to perform the steps manually.

You can get help at any time during AutoCustomization by typing **HELP** on the command line or pressing the Help key (**F3**). Requesting help at the first customization panel provides an overview of AutoCustomization.

When you select one or more products, AutoCustomization presents a comprehensive list of sequentially numbered steps that you must complete before the product is operational. The number of steps varies depending on the product. Most of the steps are required, but some are optional.

Tip: BMC Software recommends that you browse all AutoCustomization steps and compile a list of questions or required information before selecting steps. Having all the information in advance allows you to answer the questions promptly and helps you proceed through the AutoCustomization process in an efficient manner.

Note: Although you can browse steps in any order, you must select and complete steps in the listed order, because many steps share the information in previous steps. Each step must be selected, even if it is optional and will be bypassed.

When all required steps are marked as completed, the product is operational. When you return to the product list from the step list, the status of the product changes from UNMODIFIED to OPERATIONAL.

If you bypass any required steps in the list of numbered steps and return to the product list, the status of the product is changed to INCOMPLETE and the product is not operational.

Alternatives to Running AutoCustomization through the Installation System

You can run AutoCustomization from an ISPF command line, independent of the installation system. You can also customize your products manually, without using the AutoCustomization utility.

Running AutoCustomization from a Command Line

You do not need to allocate any libraries or modify panels before running AutoCustomization. To run AutoCustomization, follow these steps:

1. On any ISPF panel command line, type the following command:

```
TSO EX 'HLQ.BBCLIB(BBCUST)'
```

2. Press **Enter**.
3. Supply the high-level qualifier of your target libraries, as requested by AutoCustomization.
4. Press **Enter**.

Note: As an alternative to Step 3 and Step 4, you can supply the high-level qualifier of your target libraries by providing a prefix parameter as follows:

```
TSO EX 'HLQ.BBCLIB(BBCUST)' 'PREFIX(HLQ)'
```

AutoCustomization displays the Product Customization menu, where you can choose a product to customize.

Manually Customizing Products

While AutoCustomization allows you to perform the minimum steps required to make your product operational, manual customization allows you to customize your products to best suit your needs.

The *MAINVIEW Common Customization Guide* contains additional information, including a list of all products that you can manually customize.

Before You Begin

Complete the dialog for unloading your BMC Software products as described in “Generating Installation JCL” on page 3-25.

Note: Review your product's release notes to determine whether there are unique customization requirements. If the release notes do not specify any additional information, follow the steps in this section.

To execute AutoCustomization, you must use ISPF/PDF 2.3 or later. You must ensure write access to the following items:

- SYS1.PARMLIB
- JES procedure library (SYS1.PROCLIB or equivalent)
- previously APF-authorized load library
- SYS1.VTAMLST or equivalent for MAINVIEW Alternate Access

For any additional authorization requirements for the product that you are customizing, see the documents that were shipped with your product. These documents also describe any additional customization that you must perform to implement optional product functions.

Note: If you installed BMC Software products in multiple target and distribution zones, you must run AutoCustomization for each set of target libraries and distribution libraries.

To Customize Installed Products with AutoCustomization

Step 1 From the installation system Main Menu, choose Product Customization and press **Enter**.

The products that you have unloaded are listed with the appropriate customization procedure.

Step 2 To customize the listed SMP/E-enabled products, select AutoCustomization.

Step 3 If you are prompted, enter the high-level qualifier of your product libraries and press **Enter**.

The Product Customization menu displays the status of each product.

A sample Product Customization menu is shown in Figure 3-11.

Figure 3-11 Sample Product Customization Menu

```

BMC Software ----- PRODUCT CUSTOMIZATION ----- Row 1 of 6
COMMAND ==> SCROLL ==> HALF

Valid line command:
S - Select a product for customization
    (you may select more than one)

Valid primary commands:
MAINT - Recustomize all products after
        applying SMP maintenance
HELP - Display an overview of this
        product customization dialog

Product                Status
-----
AUTOOPERATOR           INCOMPLETE
CMF MONITOR             INCOMPLETE
INTUNE                 OPERATIONAL
MAINVIEW Alarm Manager  OPERATIONAL
MAINVIEW FOR MQSERIES   INCOMPLETE
MAINVIEW FOR OS/390     INCOMPLETE

```

Step 4 Select a product to customize, and press **Enter**.

The Product Customization Steps menu displays the steps that are required for customizing a product and the status of the customization.

A sample Product Customization Steps Menu is shown in Figure 3-12.

Figure 3-12 Sample Product Customization Steps Menu

```

BMC Software ----- PRODUCT CUSTOMIZATION STEPS ----- ROW 1 TO 15 OF 21
COMMAND ==> SCROLL ==> HALF
Valid line commands:
- Select a step. (Must be selected in sequence) -----
B - Browse a step. (No actions will be taken and
    may be browsed out of sequence) - bypassed
Step Status(S) Step Flag(F) S

Step S F Description Product
-----
1 + Specify jobcards and other operational defaults SHR
2 + o Implement GDDM/PGF support SHR
3 + o Determine if support for Katakana terminals is required SHR
4 + Create site data sets for use with MAINVIEW products SHR
5 + o Create historical data sets for use with MAINVIEW products SHR
6 + Add our load library to your system APF list SHR
7 - o Add our load library to your system linklist SHR
8 + Create Clist for invoking MAINVIEW products SHR
9 + o Reload all BBX services SHR
10 + Create procedure to start the CAS (Coordinating Address Space) SHR
11 + Create procedure to start the COMMON STORAGE MONITOR (CSMON) SHR
12 + Allocate WKLDFILE and PARMFILE data sets for MVS products SHR
13 + o Copy sample CMF MONITOR parameter members from BBPARM to UBBPARM CMF
14 + o Copy sample CMF Online screen definitions from BBSAMP to SBBSDEF CMF
15 + o Assemble and link the JES offsets CSECT CMF

```

Step numbers are listed on the left side of the menu. To the right of each step number is the status indicator:

- A plus sign (+) indicates that a step was completed.
- A minus sign (-) indicates that a step was bypassed.

The status indicator is blank initially. The indicator changes to a plus sign when the step is completed. The indicator changes to a minus sign when the step is selected but bypassed.

To the right of the status indicator is an indicator for optional steps (o).

On the far right of the menu is the Product step indicator. This indicator shows whether the step is shared (SHR) or product-specific. In the example shown in Figure 3-12, Step 1 through 12 are shared steps (indicated by SHR). Step 13 through 15 are product-specific steps (indicated by the product name abbreviation).

Step 5 On the Product Customization Steps menu, browse or select customization steps as follows:

- Browse a customization step by typing **B** in the space to the left of the step number that you want to browse, then pressing **Enter**.

Note: You can browse steps in any order.

When you browse a step, AutoCustomization displays a screen containing information that is specific to that product. Each step might have several screens, each with questions about customizing the installation of the product.

- Select a customization step by typing **S** in the space to the left of the step number that you want to select, then pressing **Enter**.

Note: You must select steps in the listed order. Because the information that you provide in one step might be used in a later step, you must complete each step before continuing to the next step.

When the step is complete (or bypassed), AutoCustomization returns to the list of steps. The status of the selected step is updated.

Step 6 You may exit AutoCustomization before completing the customization of a product.

The status of each step remains as you left it until you continue AutoCustomization. The status of the product on the Product Customization menu changes to INCOMPLETE. When all required steps are marked as complete, the product status changes from UNMODIFIED to OPERATIONAL.

Where to Go from Here

Perform any other required steps for implementing each specific product, and then verify that the product works properly by using it as described in the appropriate reference or user guide for that product.

For any additional authorization requirements for the product that you are customizing, see the documents that were shipped with your product. These documents also describe any additional customization that you must perform to implement optional product functions.

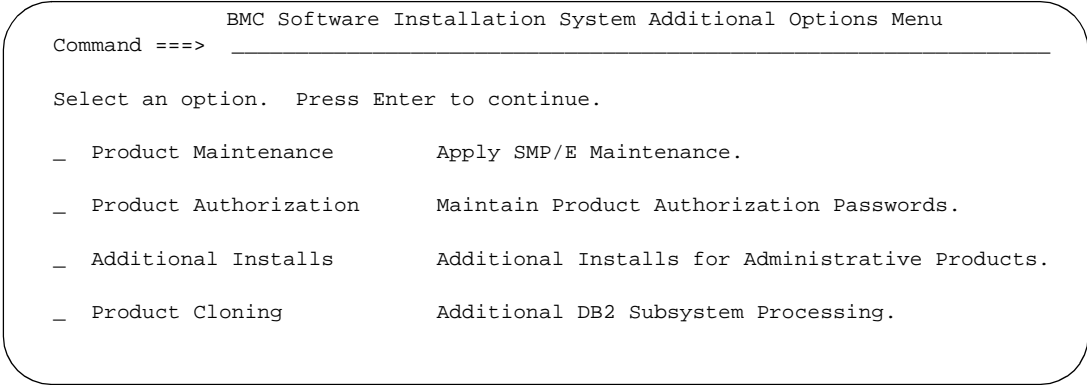
Performing Other Installation Tasks

In addition to unloading and customizing BMC Software products, the installation system provides the following functions:

- applying SMP/E maintenance to qualified products
- applying and maintaining product passwords
- performing special installations such as catalog indirection and demonstration systems
- cloning product installations on other subsystems

These functions are available when you select Additional Options from the installation system Main Menu.

Figure 3-13 Additional Options Menu



Generating Jobs to Perform SMP/E Maintenance

Summary: BMC Software delivers maintenance tapes to upgrade products or repair problems. The Product Maintenance feature manages maintenance for those products that are SMP/E enabled. This procedure produces SMP/E batch jobs in your installation JCL library. Submitting the JCL performs maintenance on your products.

SMP/E maintenance is available for those products that were installed with the SMP/E method, or that were installed with the Standard method and subsequently enabled for SMP/E maintenance by running the \$B90SMPE job.

Note: SMP/E maintenance is not available for all products installed with the Standard method. If no \$B90SMPE job was generated when you created your installation JCL, maintenance jobs are generated in the product customization function of the installation system. For more information, see “Customizing Products with Standard Customization” on page 3-29.

Before You Begin

If you performed a product installation by using the Standard method, you must download SMP/E libraries before using this procedure to apply product maintenance. You download the libraries by running the \$B90SMPE job that was created when you initially generated your installation JCL. See “Running JCL for a Standard Installation” on page 4-2.

To Generate SMP/E Maintenance JCL

- Step 1** From the installation system Main Menu, choose Additional Options and press **Enter**.
- Step 2** From the Additional Options Menu, choose Product Maintenance and press **Enter**.

The installation system presents panels that request job card information and maintenance tape VOLSER identification.

Step 3 When prompted, supply all required information.

Note: If you receive an error message indicating an invalid profile, you must correct the problem and repeat the product maintenance procedure. The following methods provide a valid profile:

- From the Main Menu, choose User Options and specify the user profile that was used during the product installation.

Repeat Step 1 through Step 3 as required.

- From the Main Menu, choose Product Install and generate installation JCL for the products requiring maintenance. Do not submit the installation JCL.

Repeat Step 1 through Step 3 as required.

Step 4 To apply maintenance to installed products, generate the batch jobs:

4.A In the JCL Generation Option panel, specify one of the following options:

- generate installation batch jobs in the data set that you entered in “Specifying User Options” on page 3-23

This option generates the batch jobs that apply maintenance to your installed products. If maintenance batch jobs already exist in the specified data set, they are overwritten. The status of the JCL generation is updated on the panel as it occurs.

- skip batch-job generation, and display the next panel

Note: No installation batch jobs are created.

4.B To generate the batch jobs, press **Enter**.

The installation system creates the batch job streams that are used for applying product maintenance.

4.C When all required jobs are generated, press **Enter** to display a list of generated jobs.

The installation system generates and displays the JCL that performs maintenance on your products. The maintenance jobs are located in the JCL library that you designated in your user options and are identified with the prefix \$M.

Step 5 Review the generated JCL.

Note: You can edit the jobs if necessary.

Step 6 To apply product maintenance, submit the maintenance JCL in the order that is listed.

Note: It is not necessary to submit the generated jobs from within this procedure. You can submit the jobs from your JCL library at any convenient time.

Where to Go from Here

When you have completed the product maintenance dialog, you can return to the Main Menu to perform other installation system tasks or you can exit the installation system.

Managing Product Licenses

Summary: When Customer Password Response of BMC Software processes a license agreement for a product, it issues CPU authorization passwords. To run a BMC Software product, you must have a password. This procedure describes how to enter a password by using the BMC Software Security Facility.

Before You Begin

Complete the following tasks:

- specify user options, as described in “Specifying User Options” on page 3-23
- review Appendix A, “BMC Software Product Authorization”
- obtain your BMC Software product authorization passwords
- review your product’s release notes to determine whether your product has unique licensing requirements

Note: If the release notes do not specify any additional prerequisite tasks, perform the steps in this section.

To Invoke the BMC Software Security Facility

- Step 1** From the installation system Main Menu, choose Additional Options.
- Step 2** From the Additional Options menu, choose Product Authorization.
- Step 3** From the displayed list of products, select a product that requires authorization.

The installation system invokes the Security Facility.

- Step 4** Provide the information as requested. (The Security Facility is fully documented in Appendix A, “BMC Software Product Authorization.”)

The Security Facility displays a list of products.

- Step 5** Repeat Step 3 and Step 4 for each product that requires authorization.
- Step 6** To exit the Security Facility and return to the installation system Main Menu, press **F3**.

Where to Go from Here

You can now use BMC Software products as specified in your license agreement.

Product Cloning

Summary: The product cloning function allows you to create a unique set of objects for each installed DB2 subsystem. The JCL that is generated by this process does not unload data sets from distribution media, but uses the data sets that were unloaded when you performed your product installation. This procedure describes how to clone BMC Software products on one or more specified subsystems.

The product cloning function simplifies the process of creating unique sets of objects for each installed DB2 subsystem. This function supports two cloning installation paths. The path you choose depends upon the number of DB2 subsystems that you have and the amount of control you want to take with the installation variables. The installation system supports the following cloning options:

- Use SSID to install selected products on another DB2 subsystem. You have full control to change parameters that are different for each subsystem.
- Use Multiple SSID to create identical objects for many DB2 subsystems.

Product cloning uses parameters that were saved in your profile when you first installed your products.

Before You Begin

Requirements for performing cloned product installations are specific to the products that you are installing. Refer to product customization guides to determine cloning requirements and restrictions.

Generate installation and customization JCL for all products that you will clone on DB2 subsystems.

Note: You are not required to submit the generated installation and customization JCL prior to generating cloned product installation JCL.

To Clone Products on DB2 Subsystems

Step 1 Select Product Cloning from the Additional Options menu. Press **Enter** to continue.

The Propagation menu displays subsystem installation options.

Step 2 Select the appropriate option:

- Select the SSID path to clone a product onto a single subsystem, where you will control all variables for created objects.

Warning! Specify a unique high-level qualifier for generated SSID JCL to avoid overwriting your existing installation JCL.

- Select Multiple SSID to clone a product onto many identical subsystems.

This process generates JCL for a model subsystem installation. The system copies the model JCL for each specified subsystem.

Step 3 When prompted, supply the requested information about products and subsystems.

Note: Refer to your product customization guide for information specific to the products you are cloning onto subsystems.

Where to Go from Here

When you have completed the product cloning dialog, you can return to the Main Menu to perform other installation system tasks or you can exit the installation system.

Cancelling the Installation

At times it might be necessary to cancel the installation and revert to the previous level of a product. For this reason, you should ensure that a complete backup of your current system is available before you begin the installation process.

When you generate installation JCL, jobs are automatically created that will restore your system to conditions that were in place before the installation. These jobs are located in the installation JCL library that you specified when you provided user options.

Table 3-1 describes these utility jobs.

Table 3-1 Installation System Utility Jobs

Member Name	Description
\$B00DOC	contains relevant information about the installation and descriptions of generated jobs Read this member before submitting any JCL.
#D99DCSI	deletes global, target, and distribution zones that were created during an SMP/E installation
#D98DTGT	removes all product data sets from your SMP/E target libraries
#D99DDL B	removes all product data sets from your SMP/E distribution libraries
\$99DUCL	removes UCLIN data sets that are not needed after a Standard installation ACCEPT job has been run for SMP/E-enabled products
#D98DROP	drops all DB2 data structures and frees all packages and plans created during installation. <i>Submit only when you want to remove the installed products from your environment. As a safeguard, you must edit the job before it will run.</i>
#D99DLTE	deletes all non-VSAM data sets that were created during installation and VSAM data sets created by \$C10VSAM. <i>Submit only when you want to remove the installed products from your environment. As a safeguard, you must edit the job before it will run.</i>

Chapter 4 Running Installation JCL

This chapter contains the following topics:

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Overview

If you completed the procedures in Chapter 3, “Using the Installation System,” the installation system generated jobs in your *HLQ*.JCL library. This chapter guides you through reviewing and running those jobs to complete the installation process. The procedures for running the jobs vary, depending on which installation method you use.

- If you are installing BMC Software products from Standard tapes, you must complete the procedure in “Running JCL for a Standard Installation.”
- If you are installing products from SMP/E-formatted tapes, you must consider environmental issues before running the JCL. “Running JCL for an SMP/E Installation” on page 4-8 provides details.

Running JCL for a Standard Installation

To install products from Standard tapes, run the JCL shown in Table 4-1. The remainder of this section provides instructions.

Running Standard Installation JCL

Summary: This procedure explains how to run JCL to unload BMC Software products from Standard tapes. If you are using SMP/E tapes, go to page 4-8.

Before You Begin

Use the installation system to generate the JCL, as instructed in “To Generate the Installation JCL” on page 3-25.

Note: Before submitting JCL, set NUMBERS OFF on the ISPF command line.

To Run Standard Installation JCL

Step 1 Review the jobs described in Table 4-1 that the installation system generated in your *HLQ*.JCL library. You can modify the JCL if necessary. When you are satisfied that the jobs are correct, proceed to the next step.

Table 4-1 Generated Jobs for a Standard Installation

JCL Member	Description
\$B00UDOC	provides documentation relevant to the unload JCL
\$B05UNLD	allocates libraries and unloads the products that you selected for this installation
\$B90SMPE	downloads an SMP/E environment for future maintenance

Step 2 Submit the \$B05UNLD job to unload the product data sets from tape.

Step 3 Submit the \$B90SMPE job to create an SMP/E environment for installed products.

Note: The system generates the \$B90SMPE job only for products that require SMP/E maintenance. If the \$B90SMPE is generated, you must run the job before you can apply SMP/E maintenance to your products.

The product unload is now complete. The product libraries reside in the data sets that you specified in your user options (page 3-23).

Where to Go from Here

Most products require customization before you can run them. You can return to the installation system Main Menu to select the product customization option or to perform other installation system tasks.

Running Standard Customization JCL

Summary: This procedure explains how to run the JCL that was generated when you followed the Standard Customization dialog.

The customization jobs that are generated vary, depending on the products that you install and the customization features that you choose. The installation system generates customization JCL in your *HLQ*.JCL library. Typical customization jobs are listed in Table 4-2. Review the comment section near the beginning of each generated job for function details.

Table 4-2 Generated Jobs for Standard Customization (Part 1 of 2)

JCL Member	Description
\$C00DOC	provides documentation relevant to the customization JCL
\$C10VSAM	defines the VSAM message data sets that are required for the products that you have selected for this installation
\$C15PSWD	applies product passwords in preparation for execution
\$C20APF	copies load modules to an APF-authorized library
\$C21LINK	copies all load modules required for RXDB2 to execute
\$C24VTML	compiles and links SLIB members
\$C26XIMP	copies the XIM parameter member to the data PDS
\$C30DOPT	creates and assembles the default options modules for the products that you have selected for this installation. You should verify that the parameter names and the data definition names in this job are compatible with your site requirements.
\$C31CPYS	copies the generated recovery options to the ASG\$DB2S member in the <i>HLQ</i> .*.CNTL file
\$C31HIST	allocates the &DTVSGSPN DB2 history and LOGRANGE files if they do not exist
\$C32SOPT	installs the “sort macro” modules for specific products
\$C32VARS	assists in setting up Control-O variables required by Smart Recover
\$C33CONX	loads the Control-O rules required by Smart Recover
\$C34INIT	establishes the base AUTOEDIT variables in Control-O
\$C35BNDI	binds the utility plan needed to install DB2 products. The job processes the installation worklist which contains DDL and bind plan statements.
\$C38ALTR	alters the BMCCOPY and BMCXCOPY tables, adding columns to each table if they do not already exist
\$C38INDX	builds additional indexes for existing common utility tables
\$C39ALTR	alters the common utility tables to the latest configuration

Table 4-2 **Generated Jobs for Standard Customization (Part 2 of 2)**

JCL Member	Description
\$C40INST	executes a series of worklists to create the DB2 environment for the products you have selected for this installation. The job creates DB2 objects and binds application plans. The BMC Software product load library must be APF authorized for this job to complete successfully.
\$C45COMD	assembles the CATALOG MANAGER command table
\$C45COPY	copies JCL generated members to the appropriate libraries where they will be used
\$C55ICPY	installs SYSCOPY support. \$C55ICPY must be submitted after the product bind is run and must be resubmitted after any rebind of the execution plan. The \$C55ICPY job acquires locks on DSNDB01.SCT02 and should be run during an inactive time to avoid contention
\$C58CONV	provides for BMCXCOPY migration from the COPY PLUS database to the common utility database
\$C60GRNT	grants user authority to the various product tables and plans
\$C65MIG	unloads data from previous product releases. This data is then loaded into the new environment by using the \$I66MIG job.
\$C66MIG	loads data from previous product releases into the new environment
\$C67COPY	produces an image copy of the new environment after migrating data from a prior release
\$C68ALP	migrates data from previous releases of LogMaster to the new environment in the specified DB2 subsystem
\$C68DOM	migrates VSAM data for Performance products
\$C70IVP	runs the installation verification procedure (IVP) for several Utility and Backup and Recovery products. The job builds all the required DB2 objects, loads the required data, and cleans up after itself upon completion.
\$C90PZAP	refreshes Activity Monitor libraries after permanent zaps have been applied to the existing loadlib
\$C97IA	runs a post-installation procedure for the Performance products

Before You Begin

Use the installation system to generate JCL, as instructed in “To Customize Installed Products with Standard Customization” on page 3-29.

Unload the BMC Software products that you will customize as described in “Running Standard Installation JCL” on page 4-3.

Note: Before submitting JCL, set NUMBERS OFF on the ISPF command line.

To Run Standard Customization JCL

- Step 1** Review the generated customization jobs in your *HLQ*.JCL library. You can modify the JCL if necessary. When you are satisfied that the jobs are correct, proceed to the next step.
- Step 2** Run the jobs in the order listed and as instructed in product documentation.

Return Codes Greater than 0

Return codes greater than 0 are specific to the job that is run and the products that are referenced. Refer to the comment block near the beginning of each installation job and its members for information about return codes greater than 0.

Running JCL for an SMP/E Installation

If you are installing products from SMP/E-formatted tapes, you must complete several tasks by using the JCL that is generated by the installation system. Table 4-3 summarizes the tasks and provides references to detailed instructions:

Table 4-3 **Tasks Required for an SMP/E Installation**

Task	Reference
1. checking for PTFs in error	page 4-9
2. setting up the SMP/E environment	page 4-11
3. installing product libraries with SMP/E	page 4-16
4. allocating and constructing product data sets with SMP/E	page 4-18

Before proceeding, note the following general guidelines for installing BMC Software products in an SMP/E environment:

- The SMP/E utility is described in these IBM publications:
 - *System Modification Program Extended User's Guide*
 - *System Modification Program Reference*
- BMC Software products have common components. When installing multiple BMC Software products into your SMP/E environment, you should install them into one set of target and distribution zones. SMP/E can then control the relationships among the components. Future products and enhancements to existing products may also share components that were distributed previously.

Warning! Do not install BMC Software products in zones that contain products that were distributed or manufactured by vendors other than BMC Software or IBM. BMC Software does not recognize the naming conventions of any vendor except IBM.

Also, if you are installing MAINVIEW AutoOPERATOR, you cannot install it into a zone with IBM products because of name conflicts with elements WTO and SUB.

Note: Before submitting JCL, set NUMBERS OFF on the ISPF command line.

Checking for PTFs in Error

You should not apply PTFs that are in error to your system. To determine whether your products have PTFs in error, check the most recent technical bulletins on the BMC Software Web site. For details about accessing the Web site, see “Customer Support” at the beginning of this guide.

The technical bulletins may indicate HOLD data for PTFs that are in error. Use the following procedure to process them. If none of your products have PTFs in error, you can proceed to “Setting Up the SMP/E Environment” on page 4-11.

Processing PTF HOLD Data

Summary: If you determine that HOLD data exists for PTFs in error, use this procedure to move that data to a HOLD data set.

Step 1 Create a data set for HOLD data processing as described in the IBM book, *System Modification Program Extended Reference*.

Step 2 Use the following MCS statements to enter exception SYSMOD HOLDDATA in your data set.

```
++HOLD ( _____ )  
      FMID ( _____ )  
      DATE ( _____ )  
      ERROR REASON ( _____ )  
COMMENT ( _____ )
```

Note: The installation system generates JCL members \$B50HOLD and \$B55LIST in the *HLQ*.JCL library to process HOLD data. For descriptions of these jobs, see Table 4-5.

Step 3 To process HOLD data from your data set and list the exception SYSMODs, use JCL members \$B50HOLD and \$B55LIST.

Step 4 Review the hardcopy listings to determine whether any action needs to be taken.

Setting Up the SMP/E Environment

You must set up your SMP/E environment to prepare for installing the product libraries. The jobs in the *HLQ.JCL* data set install BMC Software products into an existing environment or a new environment depending on your responses on the installation panels.

This section provides step-by-step instructions for preparing an existing environment (page 4-12) and for creating a new environment (page 4-15).

Upon completing the SMP/E installation dialog, the information job \$B00DOC is generated. Select this job for browsing or offline printing. Review the contents for critical information about this installation.

Warning! Prior to running the RECEIVE and APPLY processes on new products or maintenance in an existing environment, run the ACCEPT process on all previously installed products and maintenance.

Preparing an Existing SMP/E Environment

Summary: If during the installation process you chose to install your BMC Software products into an existing SMP/E environment, the installation system generated JCL in *HLQ*.JCL to create new target and distribution zones, if necessary, and relate them to an existing global zone. This procedure describes the generated jobs and considerations for running them.

Before You Begin

Use the installation system to generate the JCL, as instructed in “To Generate the Installation JCL” on page 3-25.

The SMP/E environment can have several installation configurations that use

- existing global, target, and distribution zones
- existing global zones with new target and distribution zones

Review the following considerations for SMP/E zones.

Considerations for All SMP/E Environments with Existing Zones

For all SMP/E environments with existing zones, you need to consider the following issues:

- allocating space
- updating the global zone

Before installing your products, you must consider the number of directory blocks to allocate. Provide 400 directory blocks for the SMPTLIB. Failure to allocate these directory blocks can result in SMP/E errors. Verify that your DSSPACE parameters are as follows, where your site determines the *xxx* values: DSSPACE (*xxx,xxx,400*). The last parameter must be 400.

You can use the following sample UCLIN to make the correct allocation:

```
SET BDY (GLOBAL)
UCLIN.
REP OPTIONS (BAB)
DSSPACE ( 200 , 120 , 400 )
ENDUCL.
```

Also, make sure that the global zone is updated with a BMC Software entry. When new target and distribution zones share the same global zone, an SREL(BOOL) entry must be included in the global zone before you can install your products. The installation system generates the \$B20RELT job, which includes an SREL(BOOL) entry.

If an SREL(BOOL) entry is found in your global zone, it indicates that BMC Software products have previously been installed on your system.

Considerations for Existing Global, Target, and Distribution Zones

The target libraries contain multiple products. When libraries are shared by multiple products, use the same high-level prefix for the target libraries that you used previously. Common components between products, such as BBIIS25 or BBISS26, are installed only once, and maintenance needs to be applied only once.

Considerations for Existing Global Zones with New Target and Distribution Zones

For a global zone connected to two sets of target and distribution zones, common components are installed twice. Maintenance can be received once in that global zone, but it must be applied to both sets of target and distribution zones. If you want to execute multiple products together, you need to concatenate the target libraries.

Note: If you are installing products that run in the BBI-SS PAS (MAINVIEW AutoOPERATOR, MAINVIEW FOCAL POINT, MAINVIEW VistaPoint, MAINVIEW for CICS, MAINVIEW for DB2, MAINVIEW for IMS, or MAINVIEW for DBCTL), a BBI-TS should be connected only to a BBI-SS PAS of the same release and maintenance level.

In order to install your products and apply maintenance, the new target and distribution zones must be related to the existing global zone. The installation system generates jobs \$B10CCSI and \$B25RELT, which allocate new target and distribution zones related to the same global zone.

To Prepare the Existing SMP/E Environment

Step 1 Review the following JCL:

JCL Member	Description
\$B10CCSI	creates new target and distribution zones The installation system generates and requires this job only when you are creating separate target and distribution zones.
\$B25RELT	relates new target and distribution zones to an existing global zone and updates the global, target, and distribution zones with an SREL(BOOL) entry

Step 2 Submit the \$B10CCSI job to create new target and distribution zones.

Step 3 Submit the \$B25RELT job to relate new target and distribution zones to an existing global zone.

Where to Go from Here

Proceed to “Installing the Product Libraries with SMP/E” on page 4-16 to install your products in the SMP/E target and distribution zones.

Creating a New SMP/E Environment

Summary: If during the installation process you chose to create a new SMP/E environment, the installation system generated JCL to define new global, target, and distribution zones and non-VSAM data sets to SMP/E. This procedure describes the generated jobs and considerations for running them.

Before You Begin

Use the installation system to generate JCL, as instructed on page 3-25.

To Create a New SMP/E Environment

Submit the following jobs in the order listed to define the new global, target, and distribution zones and non-VSAM data sets to SMP/E:

Table 4-4 JCL to Create a New SMP/E Environment

JCL Member	Description
\$B05CGBL	creates a global zone If AutoCustomization is used, the prefix for the product libraries must not be the same as the TSO user ID of the person conducting the installation.
\$B10CCSI	creates new, separate target and distribution zones
\$B15CSMP	allocates non-VSAM data sets
\$B20RELT	defines BMC Software options to be used for RECEIVE, APPLY, and ACCEPT processing and relates new BMC Software target and distribution zones to a global zone To create new target and distribution zones only for BMC Software products, you must relate these zones to the global zone. A return code of 4 and ADD ASSUMED messages are normal. If the job ends with a higher return code, check the output and call your BMC Software technical support analyst.

Where to Go from Here

Proceed to “Installing the Product Libraries with SMP/E” to install your products in the SMP/E target and distribution zones.

Installing the Product Libraries with SMP/E

Summary: This procedure explains how to unload product libraries with SMP/E. It provides instructions on how to RECEIVE, APPLY, and ACCEPT product functions and maintenance, and how to define target and distribution libraries by using jobs that the installation system generates.

Before You Begin

Complete an SMP/E installation as described in “Generating Installation JCL” on page 3-25.

To Install Product Libraries

Step 1 Review the jobs listed in Table 4-5.

Note: These jobs require special consideration before you submit them. Review all descriptions and notes. Make modifications if necessary.

Table 4-5 JCL to Install Product Libraries

JCL Member	Description
\$B30RECP	<p>receives product tapes</p> <p>Review the output, and write down the list of function modification IDs (FMIDs) received from the RECEIVE summary output. These FMIDs are used in the \$B35LIST job described below.</p> <p>Note that you should use the \$B35LIST and \$B40REJT instructions below only if you are installing your product(s) in the same target and distribution libraries as other BMC Software products.</p>
\$B35LIST	<p>lists the functions previously applied in target zones and accepted in distribution library zones</p> <p>Note that the installation system generates this member only if you are installing a product(s) in the same target and distribution libraries as other BMC Software products.</p> <p>Submit the job to list functions previously applied in target zones and accepted in distribution library zones.</p> <p>Compare the FMIDs on this output with the FMIDs you wrote down from the preceding \$B30RECP job. On the list you wrote down, note the FMIDs that are not duplicated in \$B35LIST. These are the new FMIDs that do not already exist, which you will later APPLY and ACCEPT.</p>

Table 4-5 JCL to Install Product Libraries

JCL Member	Description
\$B40REJT	<p>\$B40REJT rejects functions that were previously received, applied, and accepted. A subsequent SMP/E RECEIVE of functions that contain REWORK dates later than previously applied and accepted functions are not processed. These functions must be rejected selectively.</p> <p>Warning: Do <i>not</i> reinstall previously installed functions that are shipped with product upgrades.</p> <p>Note that the installation system generates this member only if you are installing one or more products in the same target and distribution libraries as other BMC Software products.</p>
\$B45RECS	<p>receives the PTFs from the cumulative maintenance tape or program update maintenance tapes</p> <p>Before you submit \$B45RECS, be sure to review the ++HOLD, ++RELEASE summary report generated by the hold step of this job, noting the PTFs included on your maintenance tape.</p> <p>Because the maintenance tape includes maintenance for most MAINVIEW BMC Software products, output from \$B45RECS may include ++VER messages that indicate maintenance for other products was not received. These diagnostic messages cause a step return code of 4.</p>
\$B50HOLD	<p>receives HOLD statements that are stored in your data set</p> <p>Note that you should do this step only if you called and received HOLD data from BMC Software Customer Support. (See "Checking for PTFs in Error" on page 4-9.)</p>
\$B55LIST	<p>lists HOLDDATA</p> <p>SYSMODs that are held because of errors are released automatically when an APAR or PTF resolves the error. SYSMODs held for documentation or action must be released with the BYPASS keyword in the APPLY JCL at the end of the \$B76APLY job.</p>
\$B60DOCL	<p>contains JCL to print PTF documentation from the maintenance tape</p> <p>Keep the product documentation, and insert it into the appropriate book.</p>

Step 2 Submit the JCL in the order listed.

Where to Go from Here

Proceed to "Allocating and Constructing Product Data Sets with SMP/E" to finish the installation process.

Allocating and Constructing Product Data Sets with SMP/E

Summary: To complete an SMP/E installation, you must allocate product data sets in target and distribution zones, and you must apply and accept all functions and maintenance. The installation system generates JCL that accomplishes these tasks. This procedure provides considerations and instructions for running the jobs.

Before You Begin

Complete the installation process for an SMP/E installation as described in “Generating Installation JCL” on page 3-25.

The installation system generates JCL to allocate and construct product data sets. Review the generated jobs listed in the following table:

JCL Member	Description
\$B18ALOC	allocates target and distribution data sets for products
\$B27FSET	defines FMIDSETs for new target and distribution zones
\$B70DDEF	defines data sets to SMP/E using DDDEF statements
\$B75APCK	performs APPLY CHECK for all functions and maintenance
\$B76APLY	applies all functions and maintenance
\$B80ACCK	performs ACCEPT CHECK for functions and maintenance for a new installation
\$B81ACPT	accepts functions, PTFs, and APARs during a new installation

To Create a Product FMIDSET

Note: Follow these steps only if you selected to create a product FMIDSET on the product installation panels.

- Step 1** Review comments near the beginning of the \$B27FSET job.
- Step 2** Submit the \$B27FSET job.

To Allocate Target and Distribution Data Sets

- Step 1** Review comments near the beginning of the \$B18ALOC job.
- Step 2** Submit the \$B18ALOC job to allocate target and distribution data sets for products.
- Note:** Perform the following steps only if you selected to allocate data sets with DDDEF statements on the product installation panels.
- Step 3** Review comments near the beginning of the \$B70DDEF job.
- Step 4** Submit the \$B70DDEF job to allocate data sets with DDDEF statements.

To Apply All Functions and Maintenance

- Step 1** Perform APPLY checking before applying functions and maintenance:
- 1.A** Review the comments near the beginning of the \$B75APCK job.
 - 1.B** Submit the \$B75APCK job to perform APPLY checking.
 - 1.C** Review the \$B75APCK output to verify that the expected functions and maintenance will be applied by the \$B76APLY job.
- Note:** A return code of 4 is normal. If the job ends with a higher return code, check the output and call your BMC Software technical support analyst for assistance.
- Step 2** Review comments near the beginning of the \$B76APLY job.
- Step 3** Change the BYPASS keyword to take appropriate action for system HOLDS, for example:
- BYPASS(HOLDSYS(DOC,ACTION))**
- This releases SYSMODs held for documentation and action.
- Step 4** Inspect the output from member \$B35LIST and the output from member \$B40REJT. Use the SMP/E SELECT operand to select all FMIDs in the FMIDSET that do not appear in either the \$B35LIST or the \$B40REJT output.
- Step 5** If the zones contain products other than BMC Software products, add the FMIDs you wrote down as instructed in Table 4-5 or the equivalent FMIDSET to the FORFMID parameter on the APPLY statement.

Step 6 Save your changes.

Step 7 Submit the \$B76APLY job to execute the APPLY.

Note: A return code of 4 is normal. If the job ends with a higher return, check the output and call your BMC Software technical support analyst for assistance.

The target libraries are defined by product line, not by product. Some products within a product line do not need all the target libraries for that line. For this reason, The SMP/E APPLY might not use some target libraries. You can delete the unused target libraries if you do not plan to install other BMC Software products. However, do not delete the distribution libraries at this time; they are needed for ACCEPT processing.

To Accept Functions, PTFs, and APARs

Step 1 Perform ACCEPT checking before accepting functions and maintenance:

1.A Review the comments near the beginning of the \$B80ACCK job.

1.B Submit the \$B80ACCK job to perform ACCEPT checking.

1.C Review the \$B80ACCK output to verify that the expected functions and maintenance will be accepted by the \$B81ACPT job.

Step 2 Review the comments near the beginning of the \$B81ACPT job.

Note: Distribution libraries are defined by product line, not by product. Some products within a product line do not need all the distribution libraries for that line. For this reason, ACCEPT might not use some distribution libraries. You can delete the unused distribution libraries if you do not plan to install other BMC Software products.

Step 3 Change the BYPASS keyword to take appropriate action for system HOLDS, for example:

BYPASS(HOLDSYS(DOC,ACTION))

This releases SYSMODs held for documentation and action.

Step 4 Add the FMIDs you wrote down as instructed in the \$B30RECP entry in Table 4-5 or the equivalent FMIDSET to the FORFMID parameter on the ACCEPT statement.

Step 5 Save your changes.

Step 6 Submit the \$B81ACPT job to execute the ACCEPT.

Note: Accept the functions as soon as possible.

- If functions have not been accepted previously, the application of future PTFs and functions may require concurrent reapplication of functions (using REDO).
- The target library data sets must be available, or ACCEPT processing will fail.
- The target library data sets might be archived or deleted if ACCEPT processing is postponed.
- Accepting functions releases the disk space occupied by the relative file data sets.
- Functions must be accepted before a PTF can be restored (using RESTORE) from the distribution zone in your system.

Where to Go from Here

Most products require customization before running. You can now return to the installation system Main Menu to select the Product Customization option or to perform other installation system tasks.

Running JCL to Perform SMP/E Maintenance

BMC Software delivers product maintenance on three types of SMP/E service tapes. These tapes are described in “Product Maintenance Distribution Files” on page 1-12. Regardless what type of tape you receive, the installation system uses SMP/E to perform maintenance on installed BMC Software products.

After you have completed the maintenance dialog (see “Generating Jobs to Perform SMP/E Maintenance” on page 3-38) the installation system generates jobs in your JCL library. When submitted, these jobs perform maintenance on installed BMC Software products.

Preparing for SMP/E Maintenance

Summary: If you performed an SMP/E installation, your products are ready for SMP/E maintenance. If you performed a Standard installation, the installation system generated JCL that will prepare your installed products for SMP/E maintenance. The following procedure describes what you must do to prepare your Standard installation for SMP/E maintenance.

Before You Begin

The Standard installation process creates the \$B90SMPE job, which prepares your environment for SMP/E maintenance. \$B90SMPE builds and populates zones, initializes the SMP/E environment, and allocates and populates SMP/E support data sets and distribution libraries. Verify that this job is in your *HLQ.JCL* library.

Note: Before submitting JCL, set NUMBERS OFF on the ISPF command line.

To Prepare for SMP/E Maintenance

Step 1 Assign a job class or specify a time parameter that allows sufficient CPU time for the \$B90SMPE job to complete. The CPU time required varies, depending on the number of products you are installing.

Step 2 Submit the \$B90SMPE job.

Note: The VSMALLOC step in this job may complete with a return code of 8. This is normal and does not indicate an error condition.

Where to Go from Here

Your BMC Software products are now ready for SMP/E maintenance. Proceed to “Performing SMP/E Maintenance.”

Performing SMP/E Maintenance

Summary: To perform maintenance, use the jobs in your *HLQ.JCL* library that were generated when you followed the “Generating Jobs to Perform SMP/E Maintenance” procedure on page 3-38. The instructions for using these jobs are in the sections that follow.

Before You Begin

If you are performing maintenance to products that were installed using the Standard installation method, you must prepare for maintenance as described on page 4-23.

Obtain the most recent technical bulletins for your products by accessing the BMC Software Web site. The technical bulletins might indicate that you must receive exception SYSMOD HOLD data before applying maintenance. Technical bulletins may also contain other information made available since your maintenance tape was produced.

To Receive SYSMOD HOLD Data

If the technical bulletins indicate exception SYSMOD HOLD data, follow this procedure:

Step 1 Create an FB/80 data set.

Step 2 Use the following MCS statements to enter exception SYSMOD HOLD data in the FB/80 data set:

```
++HOLD ( _____ )  
FMID ( _____ )  
DATE ( _____ )  
ERROR REASON ( _____ )  
COMMENT ( _____ ) .
```

Step 3 Submit the \$M50HLD job to receive HOLD statements that are stored in your data set.

To Receive Maintenance Data

Submit the \$M45RSCS job to receive maintenance data for both BBCUM or BBPUT (cumulative maintenance or program update tapes) and BBCAND (candidate PTFs, APARs, and HOLD data).

Note: Because the maintenance tape includes maintenance for all BMC Software products, the output may include ++VER messages that indicate that maintenance for other products was not received. Therefore, the submitted job will get diagnostic messages with a step return code of 4. These messages do not require any action.

To List SYSMODS with a HOLD Status

Step 1 Submit the \$M55LST job to list any SYSMODs that have a HOLD status.

Note: SYSMODs that are held because of errors are automatically released when an APAR or PTF resolves the error. SYSMODs held for documentation or action must be released with the BYPASS keyword in the APPLY JCL at the end of the #A60APL job.

Step 2 Review the hardcopy listings to determine if you need to take any action.

To Print PTF Documentation

Step 1 Submit the \$M60DOC job to print PTF documentation from tape.

Step 2 Keep the product documentation and insert it into the appropriate book.

To Apply Functions and Maintenance Data

Step 1 Perform APPLY checking before applying functions and maintenance:

1.A Review comments near the beginning of the \$M75APCK job.

1.B Submit the \$M75APCK job to perform APPLY checking.

1.C Review the \$M75APCK output to verify that the expected functions and maintenance will be applied by the \$M76APLY job.

Step 2 Review the comments near the beginning of the \$M76APLY job.

- Step 3** Change the BYPASS keyword to take appropriate action for system HOLDS, for example:

BYPASS(HOLDSYS(DOC,ACTION))

This releases SYSMODs held for documentation and action.

Note: If you apply BBCAND maintenance, replace BPC001 with the ID number(s) of the candidate PTFs to be applied on the APPLY SELECT statement.

- Step 4** Save your changes.

- Step 5** Submit the \$M76APLY job to execute the APPLY.

Note: \$M76APLY applies a selected list of PTFs and their prerequisites; for BBCAND tapes, \$M76APLY rejects all BBCAND maintenance that is not applied.

To Accept Functions and Maintenance Data

- Step 1** Perform ACCEPT checking before accepting functions and maintenance:

- 1.A** Review the comments near the beginning of the \$M80ACCK job.
- 1.B** Submit the \$M80ACCK job to perform ACCEPT checking.
- 1.C** Review the \$M80ACCK output to verify that the expected functions and maintenance will be accepted by the \$M81ACPT job.

- Step 2** Review the comments near the beginning of the \$M81ACPT job.

- Step 3** Change the BYPASS keyword to take appropriate action for system HOLDS, for example:

BYPASS(HOLDSYS(DOC,ACTION))

This releases SYSMODs held for documentation and action.

- Step 4** Save your changes.

Step 5 Submit \$M81ACPT to execute the ACCEPT.

Note: You should accept PTFs and APARs before applying the next maintenance tape for the following reasons:

- Accepting PTFs and APARs removes them from the SMPPTS data set and makes the space available for additional use. The data set must be compressed.
- Accepting the PTFs and APARs reduces the effort required to restore future PTFs if and when required.
- The prerequisite chains will become long and complex if ACCEPT processing is deferred. Periodic ACCEPT processing is simpler.

Where to Go from Here

The latest maintenance is now applied to your products. To implement the applied maintenance, it may be necessary to recustomize your products. To recustomize those products to which maintenance was applied, repeat the appropriate steps in the customization procedures you used when you tailored your products originally.

If you used AutoCustomization to make your products operational, use the following steps to implement maintenance.

1. Invoke AutoCustomization as described in “Customizing Products with AutoCustomization” on page 3-31.
2. In the line command field of the main AutoCustomization panel listing the BMC Software products, type

MAINT

If additional steps are necessary, another panel appears; follow the steps shown. If a blank screen appears, no additional steps are necessary; your products are ready for use.

Appendix A BMC Software Product Authorization

This appendix presents the following topics:

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Overview

When Customer Password Response of BMC Software processes a license agreement for a product, it issues *CPU authorization passwords*. These passwords authorize specific CPUs (also referred to as processors) to run the licensed product. Because BMC Software licenses its products for use on individual CPUs, the passwords are product-specific and CPU-specific (one license per product per CPU). To delete or replace an authorized CPU, you must also have a password.

You use the BMC Software Product Authorization utility to apply passwords and to change your CPU configuration.

Warning! The Product Authorization Utility does not apply to MAINVIEW SRM and some other BMC Software products. These products are authorized during the product customization process. Review your product's release notes to determine whether there are unique licensing requirements and authorization procedures.

The types of passwords are as follows:

- Temporary passwords are issued for product trials or in other special circumstances (for example, when a hardware failure prevents you from using the authorized CPU).
- Permanent passwords are issued when you convert to a permanent license, delete or replace a CPU, or modify the properties of a CPU or the product-authorization tables.

Note: You do not need to apply passwords or update CPU authorization when you install product maintenance or version upgrades.

Passwords can be processed in either of the following ways:

- as part of an online procedure
- in a batch interface that uses a job that is supplied on the product distribution tape

This appendix describes the process that you use to apply passwords and to reconfigure your CPU, either permanently or temporarily. If you have additional authorization questions or concerns about the Product Authorization utility, contact your BMC Software sales representative.

Product-Authorization Tables

When you apply passwords, the BMC Software Product Authorization utility builds or updates product-authorization tables. The utility uses passwords to create entries in the tables that define the authorization for the product and to validate software licenses.

The types of product-authorization tables are as follows:

- The Product Authorization utility builds or updates a permanent product-authorization table when you install or apply a permanent password. The permanent table controls which CPUs are licensed to run the product, based on the serial number, the model number, and the submodel number of the unit.
- The Product Authorization utility builds or updates a temporary product-authorization table when you apply a temporary password.

See “Product Authorization Passwords” on page A-4 for more information about permanent and temporary passwords.

Product-authorization tables are product-specific and are identified by the three-character product code, as in the following examples (where the variable *prd* is the three-character product code):

*prd*TBL3P (permanent)

*prd*TBL3T (temporary)

Problem Regarding Product-Authorization Table Installation

Do not install the Product Authorization tables into load modules that are PDS/Es (partition data set, extended). PDS/E files cannot contain load modules and data type objects together in the same file. The Product Authorization table is a data file, normally stored in the product loadlib.

Installing Product Authorization tables into load module PDS/Es will cause a failure when attempting to apply the password to the product library.

Detailed Error Message

```
13.10.20 JOB05439  IEC036I
          002-CC,IGC0005E,RDACAL2S,SECSEC3B,SYSLIB,582B,DEVS97,
13.10.21 JOB05439  IEA995I SYMPTOM DUMP OUTPUT
          SYSTEM COMPLETION CODE=002  REASON CODE=000000CC
```

Solution

This problem will be corrected in a future version of the Product Authorization utility; however, the problem can be circumvented by specifying a different library to contain the product-authorization tables. You should allocate a separate PDS or PDS/E for the authorization table, and specify this PDS or PDS/E when installing the password. If you have questions about the problem or the workaround, contact your BMC Software Product Authorization technical support analyst.

Product Authorization Passwords

Valid passwords can include the following characters:

- the alphanumeric character set, excluding the letters *I* and *O* to avoid confusion with the numbers one (1) and zero (0)
- equal sign (=), “at” sign (@), and plus sign (+)

Note: If your keyboard does not have the “at” sign (@), you can use the asterisk (*) in place of @. You can use these two characters (@ and *) interchangeably when typing passwords.

Permanent Passwords

Permanent passwords update a product’s permanent authorization table. Each permanent password has one of the functions described in Table A-1. When you apply a permanent password, the Product Authorization utility automatically recognizes that password’s function and prompts you accordingly.

Table A-1 Permanent Password Functions

Function	Description
Add	authorizes one new CPU to run the product
Delete	removes one CPU from the table, preventing that CPU from running the product
Replace	replaces one CPU in the table with another CPU, allowing the new CPU to run the product in place of the old CPU
Modify	modifies one or more properties of one CPU that currently exists in the product-authorization table
Reset	modifies the global properties of the product-authorization tables

Temporary Passwords

BMC Software issues temporary passwords to customers who are evaluating products on a trial basis or to customers who need to bypass product authorization to run a product temporarily on an unlicensed CPU. Temporary passwords have a specific expiration date, which is part of the password.

How to Apply Passwords

A password is an activation key for the software license, not the software license itself. Apply your new passwords as soon as possible after you receive them because temporary passwords have a limited lifespan, which is typically 30 days.

You can apply the new passwords before you completely install the product if you have installed the Product Authorization utility and have created the password library. Also, you can apply the passwords even if the product is not yet running on a specific CPU. For example, if your installation process requires that you install and run the product on a test system before migrating it to the production system, you can apply the password for the production system's CPU, even though the product is not yet running there.

BMC Software products expect to find passwords in the library indicated in the product BMCPSWD DD statement, if present. Otherwise, passwords are located in the product load library.

Passwords are saved in the corresponding library during the installation dialog execution.

How Products Are Licensed

You must use the Product Authorization utility in the following situations:

- for product trials and permanent licensing
- when upgrading to a new CPU
- when an authorized CPU fails

Note: Although you do not need the Product Authorization utility for product maintenance and version upgrades, you must consider certain issues that are associated with these upgrades. See “Product Maintenance or Version Upgrades” on page A-8 for more information.

Product Trials and Permanent Licensing

During a trial period for a BMC Software product, you can install and use the product on any CPU by using a temporary password that you obtained from your BMC Software sales representative. When you finish the trial and want to obtain a product license, the following rules apply:

- You must purchase a product license for each CPU on which you will run the product.
- BMC Software Customer Password Response issues a permanent password for each combination of CPU and licensed product.
- To enable a product on a CPU, you must add the permanent password that is issued for that CPU. You do *not* need to reinstall and retest the product.
- You can install multiple passwords in the same password library. This capability lets you use the same password library to run a product on multiple CPUs or to install a product at a central site and run it at remote sites.

CPU Upgrades

When you upgrade to a new CPU, *you must obtain a new permanent password for each product that you want to use on that CPU*. When you install the new password, the old entry in the authorization table for the product is replaced. The new table entry defines the authorization for the product.

CPU Failures

If a hardware failure or a disaster-recovery situation prevents the use of a licensed CPU, BMC Software can provide a temporary license that lets the product run on a backup CPU for a limited time. Before the temporary license expires, you must acquire a permanent license for the new CPU or you must resume using the original CPU. At the end of the grace period, you can no longer run the affected product on the backup CPU. If the grace period expires, you must obtain a new password to reset the grace period.

Updating Product-Authorization Tables

To trigger the grace period, the license validation process must update the authorization tables. If the password library must be WRITE-protected, problems could occur with updates. To avoid problems, you can place the authorization tables in another data set and concatenate that data set to the password library.

The concatenated authorization-table library should have the same DCB attributes as the product's load library. (The RECFM for the table library must be *U*.) If you have several BMC Software products, you may want to dedicate one library that includes all authorization tables for all products.

Before updating the library that contains the authorization tables, the license validation process determines whether the data set is in LNKST. If the data set is in LNKST, the license validation process does not attempt an update.

Running a Product on an Unlicensed Processor

When you run a product on an unlicensed processor, a 15-calendar-day grace period can be triggered. After this grace period expires, the product will not run or will run with diminished functionality.

Note: The product will continue to function normally when run on a licensed CPU, even if the grace period has been triggered or has expired.

To prevent this situation, you should obtain a RESET password from BMC Software Customer Password Response. If you apply the RESET password before the grace period ends, it updates the product-authorization table and makes another 15-calendar-day grace period available.

When the grace period is triggered, the Product Authorization utility (either online or in batch mode) and the affected product issue a message that advises you of the expiration date.

Product Maintenance or Version Upgrades

Installing a new maintenance level or upgrading the version or release level of a product has no effect on product authorization. No new passwords are required. However, you must ensure that your authorization tables reside in the new production libraries. If you install products in a test environment before moving them to production, the product-authorization tables must also reside in the test libraries. If you try to run the product on a different CPU, that CPU must also be licensed. Copy the product-authorization tables from the *old* library to the *new* library that contains the product's new maintenance or upgrade. To copy the tables from the old library to the new library, use the job *prd*CPUID, where the variable *prd* is the three-character product code.

Although the product-authorization tables typically reside in the password library, these tables are not load modules. If you are running ISPF 4.2 or later, you may not be able to copy these tables by using the ISPF Move/Copy utility (option 3.3). You could receive a STOW error, or one or more of the following error messages:

```
IEW2515W 4731 DIRECTORY ENTRY FOR prdTBL3n IDENTIFIED BY  
DDNAME ISPddname IS NOT MARKED AS LOAD MODULE.
```

```
IEW2522E 470E MEMBER prdTBL3n IDENTIFIED BY DDNAME  
ISPddname... IS NOT A LOAD MODULE- (INVALID RECORD TYPE).
```

```
IEW2307S 1032 CURRENT INPUT MODULE NOT INCLUDED BECAUSE  
OF INVALID DATA.
```

```
COPY FAILED FOR MEMBER prdTBL3n. FAILURE IN IEWBIND  
INCLUDE, RETURN CODE 8 REASON CODE 83000507
```

In these messages, the variable *prd* is the three-character product code and *n* is either P (permanent) or T (temporary). See “Product-Authorization Tables” on page A-3 for more information.

If you receive any of these messages, use the IEBCOPY utility to copy the tables. Do not use the IEBCOPY COPYMOD parameter when copying the product-authorization tables.

How to Obtain Passwords

Table A-2 describes the situations in which you need to obtain passwords. For each scenario, the table indicates the type of password that you need (temporary or permanent), what the password does, and how to obtain it.

Table A-2 Password Scenarios

Scenario	Password Type	Password Function	How to Obtain
You want to begin a free trial period.	temporary	temporarily bypasses authorization checking and allows you to run the product on any CPU for a limited time	BMC Software sales representative
You purchase a license for a new product.	permanent	adds a designated CPU to the list of CPUs that are authorized to run a licensed product	BMC Software sales representative or Customer Password Response (1-800-841-2031)
You stop using an authorized CPU.	permanent	removes a designated CPU from the list of CPUs that are authorized to run a licensed product	BMC Software sales representative or Customer Password Response (1-800-841-2031)
You upgrade to a new CPU.	permanent	authorizes the transfer of a license from one CPU to another CPU	BMC Software sales representative or Customer Password Response (1-800-841-2031)
You want to run the product on an additional CPU.	permanent	adds a designated CPU to the list of CPUs that are authorized to run a licensed product	BMC Software sales representative or Customer Password Response (1-800-841-2031)
The authorized CPU is not available because of an emergency (such as hardware failure).	temporary	temporarily bypasses authorization checking and allows you to run the product on any CPU for a limited time	BMC Software sales representative, Customer Password Response (1-800-841-2031), or Customer Support (1-800-537-1813)

CPU Information

When you request a permanent product license from BMC Software, you must furnish information about the affected CPUs. For each product that you license, use the worksheet in Table A-3 to record the CPU information and the passwords that you receive from BMC Software. The first line of the table provides a sample entry for a 9X2 with three processors and a CPU ID of 10309-9021-DA.

Note: CPU information is not needed for temporary passwords.

Table A-3 **Product Authorization Worksheet**

CPU Serial	CPU Type	Version Code	CPU Model	No. of CPUs	Permanent Password
10309	9021	DA	9X2	3	123,456,789,ABC
_____	_____	____	_____	____	_____,_____,_____,_____
_____	_____	____	_____	____	_____,_____,_____,_____
_____	_____	____	_____	____	_____,_____,_____,_____
_____	_____	____	_____	____	_____,_____,_____,_____
_____	_____	____	_____	____	_____,_____,_____,_____

For information about determining your CPU ID, see “Displaying Current Processor Information” on page A-29 or use the LIST option of Batch Product Authorization.

Online Product Authorization

This section describes the online interface that you can use for product authorization. To apply passwords using the batch interface, see “Batch Product Authorization” on page A-31.

Processing a Permanent Password

Use the Product Authorization Primary Menu (Figure A-1) to process passwords. You can also obtain pertinent information about the current processor and the authorization for that processor.

Figure A-1 Product Authorization Primary Menu (SECEPPRI)

```

SECEPPRI      <product-name> Product Authorization Primary Menu
COMMAND  ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

-  1. Process password (Requires password library and password)
   2. Display product authorization (Requires password library only)
   3. Display current processor information
   4. Help about...
   5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . . ____ ____ ____ ____

F1=Help  F2=Split  F3=Exit  F7=Bkwd  F8=Fwd  F9=Swap  F12=Cancel

```

This is the only panel required for processing a new password for an existing CPU.

Panels to add, delete, replace, or modify a CPU are displayed only if the password you enter on this panel allows authorization to perform those functions.

Table 1-4 describes each option on the primary menu. The following sections of this appendix provide instructions for completing specific tasks, such as adding authorization to run the product on a new CPU.

Table 1-4 Product Authorization Primary Menu Options

Option	Description
1	processes a password that BMC Software Customer Password Response provides to you Use this option to add, delete, replace, modify, or reset authorization for a password. The Product Authorization utility automatically identifies the type of password and displays the appropriate panel.
2	displays a listing of processors that are currently authorized to use the product The listing also displays when the authorization was last modified (and by whom) and the trial or temporary expiration date.
3	displays information about the current processor, including the serial number, the model number, the version code (submodel), and the number of available processors
4	displays version, copyright, and licensing information about the Product Authorization utility
5	exits the Product Authorization utility and returns to the previous menu or panel

Note: If you select option 1, you must also type the name of the password library and the authorization password. The utility saves the library name in your ISPF profile and uses that name as the default library. The data set name must be fully qualified.

Adding Authorization for a Processor

Summary: This procedure explains how to use the ADD Authorization for a Processor panel to authorize a new CPU to run the product.

Note: This function is not available unless you entered the appropriate password on the Product Authorization Primary Menu panel. You must have entered a new ADD password to authorize adding a CPU.

Step 1 Access the ADD Authorization for a Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The ADD Authorization for a Processor panel is displayed. Figure A-2 shows a sample.

```
SECEPADD                ADD Authorization for a Processor
Command ==> _____

Supply information for all input fields. Then press Enter.

Authorization password   . . : X04  UH9  KNG  JKE

New serial number . . . 10293
New model number   . . . 9672   (for example, 9021, 9121, 3090)


F1=Help    F2=Split    F3=Exit    F7=Bkwd    F8=Fwd    F9=Swap    F12=Cancel
```

- Step 2** At **New serial number**, type the serial number of the processor for which you are adding authorization.
- Step 3** At **New model number**, type the model number of the processor for which you are adding authorization and press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was modified successfully (Figure A-3).

Figure A-3 Product Authorization ADD Message

```

SECEPPRI      <product-name> Product Authorization Primary Menu
COMMAND  ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_  1. Process password (Requires password library and password)
   2. Display product authorization (Requires password library only)
   3. Display current processor information
   4. Help about...
   5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89127I PROCESSOR WAS SUCCESSFULLY ADDED TO
                        | THE PRODUCT AUTHORIZATION TABLE. YOU ARE NOW
                        | AUTHORIZED TO EXECUTE THIS PRODUCT ON SERIAL
                        | NUMBER 10293, MODEL NUMBER 9672. PRESS ENTER TO
                        | CONTINUE.
                        |
                        |-----|

F1=Help  F2=Split  F3=Exit  F7=Bkwd  F8=Fwd  F9=Swap  F12=Cancel

```

Step 4 Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

Deleting Authorization for a Processor

Summary: This procedure explains how to use the DELETE Authorization for a Processor panel to remove a CPU from the product-authorization table.

Note: This function is not available unless you entered the appropriate password on the Product Authorization Primary Menu panel. You must have entered a new DELETE password to authorize deleting a CPU.

Step 1 Access the DELETE Authorization for a Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The DELETE Authorization for a Processor panel is displayed. Figure A-4 shows a sample.

Figure A-4 DELETE Authorization for a Processor Panel (SECEPDEL)

SECEPDEL
DELETE Authorization for a Processor

Command ==>

Supply information for all input fields. Then press Enter.

Authorization password
. . . : BFP A=M QG3 =7V

Old serial number
. . . 10293

Old model number
. . . 9672
(for example, 9021, 9121, 3090)

F1=Help
F2=Split
F3=Exit
F7=Bkwd
F8=Fwd
F9=Swap
F12=Cancel

- Step 2

At **Old serial number**, type the serial number of the processor for which you are deleting authorization.
- Step 3

At **Old model number**, type the model number of the processor for which you are deleting authorization and press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was updated successfully (Figure A-5).

Figure A-5 Product Authorization DELETE Message

```
SECEPPRI          <product-name> Product Authorization Primary Menu
COMMAND  ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_  1. Process password (Requires password library and password)
   2. Display product authorization (Requires password library only)
   3. Display current processor information
   4. Help about...
   5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89128I PROCESSOR (SERIAL NUMBER 10293, MODEL |
                          | NUMBER 9672) WAS SUCCESSFULLY DELETED FROM THE |
                          | PRODUCT AUTHORIZATION TABLE. PRESS ENTER TO  |
                          | CONTINUE.                                     |
                          |-----|
F1=Help  F2=Split  F3=Exit  F7=Bkwd  F8=Fwd  F9=Swap  F12=Cancel
```

Step 4 Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

Replacing Authorization for a Processor

Summary: This procedure explains how to use the REPLACE Authorization for a Processor panel to replace one CPU in the product-authorization table with another CPU. This process allows the *new* CPU to run the product in place of the *old* CPU.

Note: This function is not available unless you entered the appropriate password on the Product Authorization Primary Menu panel. You must have entered a new REPLACE password to authorize replacing a CPU.

Step 1 Access the REPLACE Authorization for a Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The REPLACE Authorization for a Processor panel is displayed. Figure A-6 shows a sample.

Figure A-6 REPLACE Authorization for a Processor Panel (SECEPREP)

```

SECEPREP                REPLACE Authorization for a Processor
Command ===> _____

Supply information for all input fields. Then press Enter.

Authorization password . . : 4XY YAL AMB 48S

Old serial number . . . 10293
Old model number . . . 9672   (for example, 9021, 9121, 3090)

New serial number . . . 10293
New model number . . . 9652   (for example, 9021, 9121, 3090)

F1=Help   F2=Split   F3=Exit   F7=Bkwd   F8=Fwd   F9=Swap   F12=Cancel

```

- Step 2** At **Old serial number**, type the serial number of the processor to be replaced.
- Step 3** At **Old model number**, type the model number of the processor to be replaced.
- Step 4** At **New serial number**, type the serial number of the processor that will replace the old processor.
- Step 5** At **New model number**, type the model number of the processor that will replace the old processor and press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was updated successfully, replacing the old processor with the new processor (Figure A-7).

Figure A-7 Product Authorization REPLACE Message

```

SECEPPRI          <product-name> Product Authorization Primary Menu
COMMAND  ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_  1. Process password (Requires password library and password)
   2. Display product authorization (Requires password library only)
   3. Display current processor information
   4. Help about...
   5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89129I PROCESSOR WAS SUCCESSFULLY REPLACED |
                        | IN THE PRODUCT AUTHORIZATION TABLE. YOU ARE NOW |
                        | AUTHORIZED TO EXECUTE THIS PRODUCT ON SERIAL |
                        | NUMBER 10293, MODEL NUMBER 9652. PRESS ENTER TO |
F1=Help  F2=Split  F3=Ex| CONTINUE. |
                        |-----|

```

Step 6 Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

Modifying Authorization for an Existing Processor

Summary: This procedure explains how to use the MODIFY Authorization for an Existing Processor panel to change one or more properties of an existing CPU in the product-authorization table. These properties include the version code, the number of significant digits for the serial number, the tier, the maximum number of processors, and the expiration date for the product license.

Note: This function is not available unless you entered the appropriate password on the Product Authorization Primary Menu panel. You must have entered a new MODIFY password to authorize modifying a CPU.

Step 1 Access the MODIFY Authorization for an Existing Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The MODIFY Authorization for an Existing Processor panel is displayed. Figure A-8 on page A-23 shows a sample.

Figure A-8 MODIFY Authorization for an Existing Processor Panel (SECEPUPD)

```
SECEPUPD          MODIFY Authorization for an Existing Processor
Command ==> _____

Supply information for all input fields. Then press Enter.

Authorization password . . : X3Y  Q67  QQ6  5U1

Serial number . . . 10293
Model number . . . 9672  (for example, 9021, 9121, 3090)

F1=Help  F2=Split  F3=Exit  F7=Bkwd  F8=Fwd  F9=Swap  F12=Cancel
```

Step 2 At **Serial number**, type the serial number of the processor for which you want to modify the authorization.

Step 3 At **Model number**, type the model number of the processor for which you want to modify the authorization and press **Enter**.

The properties are modified automatically. A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was updated successfully (Figure A-9 on page A-24).

Figure A-9 Product Authorization MODIFY Message

```

SECEPPRI          <product-name> Product Authorization Primary Menu
COMMAND  ====> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

1  1. Process password (Requires password library and password)
   2. Display product authorization (Requires password library only)
   3. Display current processor information
   4. Help about...
   5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89130I PROCESSOR (SERIAL NUMBER 10293, MODEL |
                          | NUMBER 9672 WAS SUCCESSFULLY MODIFIED IN THE   |
                          | PRODUCT AUTHORIZATION TABLE. PRESS ENTER TO   |
                          | CONTINUE.                                     |
                          |-----|
                          |-----|

F1=Help   F2=Split   F3=Exit   F7=Bkwd   F8=Fwd   F9=Swap   F12=Cancel

```

Step 4 Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

Resetting Authorization for All Processors

Summary: This procedure explains how to use the Product Authorization Primary Menu to reset a global property (applying to all CPU IDs) of the authorization table.

Step 1 On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.

Step 2 At **Password library**, type a fully qualified data set name and press **Tab**.

Step 3 At **Authorization password**, type your permanent password and press **Enter**.

A pop-up message explains that the product-authorization table was updated successfully (Figure A-10).

Figure A-10 Product Authorization RESET Message

```

SECEPPRI          <product-name> Product Authorization Primary Menu
COMMAND  ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

1  1. Process password (Requires password library and password)
   2. Display product authorization (Requires password library only)
   3. Display current processor information
   4. Help about...
   5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89029I PRODUCT AUTHORIZATION TABLE WAS
                        | SUCCESSFULLY UPDATED. PRESS ENTER TO CONTINUE. |
                        |-----|

F1=Help  F2=Split  F3=Exit  F7=Bkwd  F8=Fwd  F9=Swap  F12=Cancel

```

Step 4 Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

Processing a Temporary Password

Summary: This procedure explains how to use the Product Authorization Primary Menu to process a temporary password.

- Step 1** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- Step 2** At **Password library**, type a fully qualified data set name and press **Tab**.
- Step 3** At **Authorization password**, type your temporary password and press **Enter**.

A pop-up message explains that the product-authorization table was built or updated successfully (Figure A-11).

Figure A-11 Product Authorization Temporary Password Message

```

SECEPPRI          <product-name> Product Authorization Primary Menu
COMMAND  ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_  1. Process password (Requires password library and password)
   2. Display product authorization (Requires password library only)
   3. Display current processor information
   4. Help about...
   5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89110I PRODUCT AUTHORIZATION TABLE WAS |
                        | SUCCESSFULLY BUILT/UPDATED. YOU ARE NOW   |
                        | AUTHORIZED TO EXECUTE THIS PRODUCT ON ANY  |
                        | PROCESSOR UNTIL 11/26/1999. PRESS ENTER TO  |
                        | CONTINUE.                                |
F1=Help   F2=Split   F3=E '-----' 1

```

- Step 4** Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

Displaying Product Authorization

Summary: Use the Product Authorization Display panel to display the current authorization for a product.

Step 1 On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 2.

Step 2 At **Password library**, type a fully qualified data set name.

Step 3 Press **Enter** to display the Product Authorization Display panel (Figure A-12).

See “Additional Information” on page A-28 for descriptions of the fields on this panel.

Step 4 When you finish reviewing the panel, press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

Figure A-12 Product Authorization Display Panel (SECEPTBL)

```

SECEPTBL                               Product Authorization Display          ROW 1 TO 1 OF 1
Command ===> _____

Press Enter to continue.

Password library . . . . . : '<HLQ>.BMCPSWD'
Product code . . . . . : DOM
Last changed (mm/dd/yy-hh:mm) . . . . : 11/19/96-10:11
Last changed by . . . . . : RDHDXJ3
Grace period ends (mm/dd/yyyy) . . . . : 04/29/1999
Temporary expiration date (mm/dd/yyyy) . : 05/10/1999

Licensed Processors

Serial  Model  Version  Significant          Maximum          Product
Number  Number  Code      Digits              Tier             Number of       License
77403   3090      62        4                   018             ALL             Expiration
10309   9021      D5         4                   018             ALL             Date
***** Bottom of data *****

F1=Help    F2=Split  F3=Exit    F7=Bkwd    F8=Fwd     F9=Swap     F12=Cancel

```

Additional Information

The Product Authorization Display panel provides the following information:

Table A-5 Field Descriptions for the Product Authorization Display Panel

Field	Description
Password library	name of the password library
Product code	code that BMC Software assigns to the product
Last changed (<i>mm/dd/yy-hh:mm</i>)	<p>date and time that the product-authorization tables were last modified</p> <p>The variables are as follows:</p> <ul style="list-style-type: none"> • <i>mm</i> represents the month (in the range 01 – 12) • <i>dd</i> represents the day (in the range 01 – 31) • <i>yy</i> represents the year (in the range 00 – 99) • <i>hh</i> represents the hour (in the range 00 – 23) • <i>mm</i> represents minutes (in the range 00 – 59)
Last changed by	user ID or job that requested the modification
Grace period ends (<i>mm/dd/yyyy</i>)	<p>date when the grace period (if triggered) will end</p> <p>The variables are as follows:</p> <ul style="list-style-type: none"> • <i>mm</i> represents the month (in the range 01 – 12) • <i>dd</i> represents the day (in the range 01 – 31) • <i>yyyy</i> represents the year (in the range 0001 – 9999) <p>Note: This line appears only if the failure mode is phased and the grace period has been triggered. The grace period can be triggered when you run a permanently licensed product on an unlicensed processor. You should apply a RESET password to reset the grace period. Contact your BMC Software sales representative for assistance.</p>
Temporary expiration date (<i>mm/dd/yyyy</i>)	<p>date on which you will no longer be allowed to bypass the CPU ID check or trial the product</p> <p>The variables are as follows:</p> <ul style="list-style-type: none"> • <i>mm</i> represents the month (in the range 01 – 12) • <i>dd</i> represents the day (in the range 01 – 31) • <i>yyyy</i> represents the year (in the range 0001 – 9999) <p>Note: If this expiration date has not yet been reached, you can run this product on any processor. On the date shown, either your trial period will end or (if you have licensed the product) you will be able to run the product only on authorized processors.</p>
Licensed processors	<p>list of properties for each licensed CPU</p> <p>The Version Code column reflects the hardware representation of the submodel. Significant Digits refers to the number of significant digits for the serial number. The expiration date indicates the month and year through which you are licensed for the specific processor. In most cases, this value is NONE. Most of the remaining processor information is provided for reference in case you need to contact BMC Software Customer Support.</p>

Displaying Current Processor Information

Summary: This procedure explains how to use the Current Processor Information panel to display information about the processor that you are currently using.

Step 1 On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 3.

Step 2 Press **Enter** to display the Current Processor Information panel (Figure A-13).

Step 3 When you finish reviewing the panel, press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

See “Additional Information” on page A-30 for an explanation of the information that is displayed on this panel.

Figure A-13 Current Processor Information Panel (SECEPCPU)

```
SECEPCPU                      Current Processor Information
Command ==> _____

For the MVS system on which this application is currently executing:

Serial number . . . : 10293
Model number . . . : 9672
Version code . . . : 06
Number of available processors . . : 05

Press Enter to continue.

F1=Help   F2=Split   F3=Exit   F7=Bkwd   F8=Fwd    F9=Swap   F12=Cancel
```

Additional Information

This panel displays the CPU serial and model numbers for the processor on which TSO is currently running. It also displays the version code of the processor. The version code is the hardware representation of the submodel (for example, the 942 in ES/9000-942 or the 600 for a 3090-600 processor). If you experience problems, your BMC Software technical support analyst may need this information.

Note: Version code X'FF' indicates that MVS is running as a VM guest. This X'FF' is not the real processor version code. To determine the real version code, run the LIST option of the Batch Product Authorization utility from an APF-authorized library. See Table A-7 on page 33 for more information.

This panel also displays the number of processors that are online to the current operating system. This information may apply to your BMC Software license agreement.

Note: The information that is displayed on this panel might not refer to a computer on which you are licensed to run a BMC Software product. For example, if you log on to TSO on SYSA but run your BMC Software product on SYSB, your product-authorization entries might refer to SYSB.

Batch Product Authorization

This section describes the batch interface that is used for product authorization. To use the online interface, see “Online Product Authorization” on page A-10.

Using the batch interface, you can perform the following tasks:

- process a password
- obtain current product authorization and processor information

Running Batch Product Authorization

Figure A-14 on page A-31 is a sample JCL script for running batch product authorization. See “Additional Information” on page A-32 for descriptions of the information in the JCL script. You can find product-specific JCL samples in the base installation library. Select the member BMISPSWD and follow the instructions in the comments section of that member.

Figure A-14 Sample JCL for Running Batch Product Authorization

```
//JJJJJJJJ JOB .....
//*
//SECSEC3B EXEC PGM=SECSEC3B,PARM='prd'      <<<==== PRODUCT CODE
//STEPLIB DD DSN=BMC.INSTALL.LOAD,DISP=SHR
//*
//SYSLIB DD DSN=<HLQ>.BMCPSWD,DISP=SHR <==== REQUIRED
//SYSPRINT DD SYSOUT=*                      <<<==== REQUIRED
//*
//SYSIN DD *
**** PROCESS AN ADD PASSWORD AND LIST RESULTS ****
PSWD=AE@,82G,91#,C7$ NEWCPUID=11111-9021
**** PROCESS A DELETE PASSWORD AND LIST RESULTS ****
PSWD=BE@,AD0,32$,7C# OLDCPUID=31091-9121
**** PROCESS A MODIFY PASSWORD AND LIST RESULTS ****
PSWD=123,456,789,ABC OLDCPUID=98765-4321
**** PROCESS A REPLACE PASSWORD AND LIST RESULTS ****
PSWD=ARF,56C,##1,C7$ OLDCPUID=31001-3390 NEWCPUID=31091-3381
**** PROCESS A RESET PASSWORD
PSWD=123,456,789,ABC
**** PROCESS A TEMPORARY PASSWORD AND LIST RESULTS ****
PSWD=AE@,B32,##1C,D7#
**** REPORT THE PROCESSOR INFORMATION AND AUTHORIZATION ****
LIST
```

Additional Information

Information required for the JCL script is as follows:

Table A-6 Sample JCL Script Information

JCL Statement	Description
JOB	varies, depending on your system
EXEC	identifies the program (SECSEC3B) and passes the product code in the PARM field Replace <i>prd</i> with the three-character product code.
STEPLIB DD	identifies the load library in which SECSEC3B resides (This is optional if SECSEC3B resides in LINKLIST or is specified in JOBLIB.)
SYSLIB DD	identifies the password library Product-authorization tables are stored and updated in this data set.
SYSPRINT DD	enables the product to issue messages and output from the LIST control statement
SYSIN DD	identifies the location of the control statements that define the actions the program is to take See “Control Statements and Keywords” on page A-33 for a description of these control statements.

Control Statements and Keywords

Some tasks require different input parameters depending on the type of password that you are installing. The sample JCL shown in Figure A-14 on page A-31 shows various tasks that you can perform by using the batch version of product authorization. You need to modify the JCL to include only the tasks that you want to perform.

The following syntax rules apply to the control statements:

- Control statements can begin in any column.
- Uppercase letters are required.
- You must insert at least one blank space between individual keywords and data fields. Multiple blank spaces are acceptable.
- To insert comments, type an asterisk (*) in column 1 of each line that contains the comment. Comments following keywords are not allowed.
- You cannot specify the LIST keyword on the same line as PSWD, NEWCPUID, and OLDCPUID.

Table A-7 describes the control statement keywords.

Table A-7 Control Statement Keywords

Keyword	Data	Explanation
PSWD	12-character password formatted as four fields of three characters each, separated by either a comma or a blank (See sample JCL on page A-31.) Twelve continuous characters are also acceptable.	Valid characters are alphanumeric (excluding letters I and O). Valid special characters are =, +, and @. You can substitute the asterisk (*) for the "at" sign (@) when @ is not available on the keyboard.
NEWCPUID	five-digit serial number, followed by a hyphen and a four-digit model number	The serial number and model number must be hexadecimal characters separated by a single hyphen.
OLDCPUID	five-digit serial number, followed by a hyphen and a four-digit model number	The serial number and model number must be hexadecimal characters separated by a single hyphen.
LIST	not applicable	A report prints showing the contents of the product-authorization tables and information about the processor on which the job ran.

Return Codes

You can receive any of the following return codes when you use the batch version of product authorization:

- 0 All requests completed successfully. See the SYSPRINT output for messages about each operation.
- 4 A LIST was requested, but no tables were in the load library.
- 8 An error prevented completion of all of your requests. See the SYSPRINT output for messages about the error and any completed operations.

Appendix B BMC Software Product Authorization Messages

This appendix presents the following topics:

Error Messages	B-2
Message Format	B-2
Message Severity Codes	B-3
Message Explanations	B-3

Error Messages

This section contains the text and explanations for all error messages issued by the ISPF interface and the batch interface of the Product Authorization utility.

The following information is provided for each message:

- *Explanation* explains why the product issued the message.
- *System Action* describes what the product does as a result of encountering the situation.
- *User Response* describes what you should do in this situation.

Message Format

All messages consist of a message identifier and message text. These messages use the following format:

Words in the message text that are italicized and enclosed in arrows (<*example*>) indicate variable text that will be determined when the message is issued.

Words in the message text that are enclosed in brackets and separated by vertical lines ([ON | OFF]) indicate actual values, one of which will be included at that point in the message.

Message Severity Codes

Messages produced by the Product Authorization utility use the following severity codes:

Table B-1 Message Severity Codes

Code	Meaning
A (action)	Immediate action is required.
E (error)	The function that you requested was not completed.
I (information)	Information only. No action is required.
R (reply)	You must reply to the message before the system can continue.
S (severe)	A severe error occurred.
W (warning)	The system is still operating, and no immediate action is required. When time is available, more investigation is needed.

All messages with a severity code *E* are sent to the system console. Some messages with a severity code *A* or *I* are also sent to the system console.

Message Explanations

The following error messages can be issued by the Product Authorization utility:

BMC89000A

PASSWORD LIBRARY IS A REQUIRED FIELD.

Explanation: The password library must be specified.

System Action: The action fails.

User Response: Enter the data set name for the password library, and retry the action.

BMC89001A

PASSWORD IS A REQUIRED FIELD.

Explanation: The action that you requested requires a password to be specified.

System Action: The action fails.

User Response: Enter the password, and retry the action. If you do not have a password, contact your BMC Software sales representative to acquire one.

BMC89002E PASSWORD MAY NOT CONTAIN BLANK CHARACTERS.

Explanation: A blank is not a valid password character. Valid characters are A to Z (excluding I and O), 0 to 9, @, +, and =.

Note: Some nondomestic keyboards do not have the “at” sign (@). For this reason, the asterisk (*) has been designated as a synonym for @. These two characters (@ and *) can be used interchangeably when typing passwords.

System Action: The action fails.

User Response: Correct the password, and retry the action.

BMC89003A SERIAL NUMBER IS A REQUIRED FIELD.

Explanation: A valid CPU serial number has not been specified. Valid CPU serial numbers consist of five hexadecimal digits. No blanks or special characters are allowed.

System Action: The action fails.

User Response: Supply a valid CPU serial number, and retry the action.

BMC89004E SERIAL NUMBER FIELD CONTAINS INVALID CHARACTERS.

Explanation: The specified CPU serial number contains invalid characters. Valid CPU serial numbers consist of five hexadecimal digits. No blanks or special characters are allowed.

System Action: The action fails.

User Response: Supply a valid CPU serial number, and retry the action.

BMC89005E SERIAL NUMBER MAY NOT CONTAIN BLANK CHARACTERS.

Explanation: The specified CPU serial number contains a blank character and is invalid. Valid CPU serial numbers consist of five hexadecimal digits. No blanks or special characters are allowed.

System Action: The action fails.

User Response: Supply a valid CPU serial number, and retry the action.

BMC89006A MODEL NUMBER IS A REQUIRED FIELD.

Explanation: A valid CPU model number has not been specified. Valid CPU model numbers consist of four hexadecimal digits. No blanks or special characters are allowed.

System Action: The action fails.

User Response: Supply a valid CPU model number, and retry the action.

BMC89007E	MODEL NUMBER FIELD CONTAINS INVALID CHARACTERS. <i>Explanation:</i> The specified CPU model number contains invalid characters. Valid CPU model numbers consist of four hexadecimal digits. No blanks or special characters are allowed. <i>System Action:</i> The action fails. <i>User Response:</i> Supply a valid CPU model number, and retry the action.
BMC89008E	MODEL NUMBER MAY NOT CONTAIN BLANK CHARACTERS. <i>Explanation:</i> The specified CPU model number contains a blank. Valid CPU model numbers consist of four hexadecimal digits. No blanks or special characters are allowed. <i>System Action:</i> The action fails. <i>User Response:</i> Correct the model number, and retry the action.
BMC89009E	DATA SET NAME IS INVALID. <i>Explanation:</i> The specified data set name is invalid. The data set does not exist, or it is not cataloged. <i>System Action:</i> The action fails. <i>User Response:</i> Correct the data set name, and retry the action.
BMC89010A	OPTION IS A REQUIRED FIELD. VALID VALUES ARE 1, 2, 3, 4, OR 5. <i>Explanation:</i> No menu option has been specified. <i>System Action:</i> All functions are suppressed. <i>User Response:</i> Type a valid option number in the selection field, and retry the action.
BMC89011E	INVALID OPTION. PLEASE ENTER 1, 2, 3, 4, OR 5. <i>Explanation:</i> The specified option is invalid. <i>System Action:</i> All functions are suppressed. <i>User Response:</i> Type a valid option number in the selection field, and retry the action.

BMC89012E

OPTION IS REQUIRED. VALID VALUES ARE 1, 2, OR 3.

Explanation: No menu option has been specified.

System Action: All functions are suppressed.

User Response: Type a valid option number in the selection field, and retry the action.

BMC89013E

<command> IS NOT A VALID COMMAND.

Explanation: The specified command is invalid.

System Action: The command fails.

User Response: Correct the command, or remove the command from the command line.

BMC89019E

YOU MAY VIEW PRODUCT AUTHORIZATION FOR THIS PRODUCT FROM ONLY ONE LOGICAL SCREEN AT A TIME.

Explanation: Product Authorization is being displayed on another panel.

System Action: Product Authorization is not displayed on this panel.

User Response: Use the panel currently displaying Product Authorization, or cancel that panel and resubmit the job on this one.

BMC89021E

ERROR DURING DYNAMIC ALLOCATION. PASSWORD LIBRARY WAS NOT ALLOCATED, ERROR CODE=<code>, INFO. CODE=<code>, DDNAME=SYSLIB.

Explanation: The product-authorization interface and the Product Authorization utility were unable to dynamically allocate the password library. The error codes and information codes returned by the DYNALLOC macro are described in the *Authorized Assembler Programming Guide* and in the appendixes of the ISPF help tutorial panels.

System Action: The action fails, or the batch (utility) job terminates.

User Response: Verify that the correct data set name for the password library was specified and that the data set exists and is cataloged on DASD. Retry the action. If failure persists, contact your BMC Software technical support analyst for assistance.

BMC89022E	ERROR IN INPUT DSN. PLEASE CONTACT BMC PRODUCT SUPPORT. <i>Explanation:</i> The data set name for the product-authorization table was not found. <i>System Action:</i> All functions are suppressed. <i>User Response:</i> If the data set name is wrong, correct it and resubmit the job. If the data set name is correct, contact your BMC Software technical support analyst for assistance.
BMC89029I	PRODUCT AUTHORIZATION TABLE WAS SUCCESSFULLY UPDATED. PRESS ENTER TO CONTINUE. <i>Explanation:</i> The table has been updated. <i>System Action:</i> All functions have been processed. <i>User Response:</i> Press Enter to continue.
BMC89050E	THE BMC PRODUCT CODE IS MISSING OR IS INVALID. CHECK PARM= ON JCL EXEC STATEMENT. <i>Explanation:</i> No product code (or an invalid product code) was specified in the PARM parameter of the batch JCL. <i>System Action:</i> The password is not processed. <i>User Response:</i> Add or correct the product code in the PARM parameter of the JCL EXEC statement. See “Control Statements and Keywords” on page A-33 for assistance with syntax.
BMC89051E	UNRECOGNIZABLE OR INCOMPLETE PARAMETER ON THE CURRENT INPUT CONTROL STATEMENT. <i>Explanation:</i> A parameter on the input control statement is incorrect. <i>System Action:</i> The password is not processed. <i>User Response:</i> Correct the parameter, and retry the action. See “Control Statements and Keywords” on page A-33 for assistance with syntax.
BMC89052E	MODEL NUMBER CANNOT BE LONGER THAN FOUR CHARACTERS. <i>Explanation:</i> A CPU model number of more than four characters was specified in the batch JCL. CPU model numbers cannot be longer than four characters. <i>System Action:</i> The password is not processed. <i>User Response:</i> Correct the model number, and retry the action. See “Control Statements and Keywords” on page A-33 for assistance with syntax.

- BMC89053E SERIAL NUMBER MUST BE 5 HEXADECIMAL CHARACTERS WITH DELIMITING HYPHEN.**
- Explanation:* The CPU serial number must be followed by a delimiting hyphen (-).
- System Action:* The password is not processed.
- User Response:* Insert a hyphen between the serial number and the model number, and retry the action. See “Control Statements and Keywords” on page A-33 for assistance with syntax.
- BMC89054E THE FIRST CHARACTER OF THE BMC PRODUCT CODE CANNOT BE A NUMBER. PLEASE CORRECT AND RERUN THE JOB.**
- Explanation:* The first character of the product code is invalid.
- System Action:* The password is not processed.
- User Response:* Correct the first character of the product code in the PARM field on the JCL EXEC statement. See “Control Statements and Keywords” on page A-33 for assistance with syntax.
- BMC89055E THE PASSWORD MUST BE FORMATTED AS “PSWD=PPP,PPP,PPP,PPP” OR “PSWD=PPPPPPPPPPPP” OR “PPP PPP PPP PPP.”**
- Explanation:* The password in the batch JCL has been specified incorrectly. The password can be specified as 12 consecutive characters without spaces or as four sets of three characters, with each set separated by a comma or a blank space.
- System Action:* The password is not processed.
- User Response:* Correct the password, and resubmit the job. See “Control Statements and Keywords” on page A-33 for assistance with syntax.
- BMC89057E OPEN FAILURE FOR DDNAME=SYSIN.**
- Explanation:* The Product Authorization utility batch program was unable to open the data set specified by the SYSIN DD statement.
- System Action:* The batch program terminates.
- User Response:* Correct the data set name specified on the SYSIN DD statement, and resubmit the job. See “Control Statements and Keywords” on page A-33 for assistance with syntax.

BMC89058E**MODEL NUMBER CONTAINS INVALID CHARACTERS.**

Explanation: At least one character in the CPU model number specified in the batch JCL is invalid. Only hexadecimal characters (0 to 9 and A to F) are allowed in the model number.

System Action: The password is not processed.

User Response: Correct the model number, and resubmit the job. See “Control Statements and Keywords” on page A-33 for assistance with syntax.

BMC89059E**SERIAL NUMBER CONTAINS INVALID CHARACTERS.**

Explanation: At least one character in the CPU serial number specified in the batch JCL is invalid. Only hexadecimal characters (0 to 9 and A to F) are allowed in the serial number.

System Action: The password is not processed.

User Response: Correct the serial number, and resubmit the job. See “Control Statements and Keywords” on page A-33 for assistance with syntax.

BMC89060E**THIS PASSWORD REQUIRES “NEWCPUID” KEYWORD FOR THE CPU ID TO BE ADDED.**

Explanation: The Add password being processed requires specification of the NEWCPUID keyword, and none was specified.

System Action: The password is not processed.

User Response: Specify the NEWCPUID keyword on your input control statement. See “Control Statements and Keywords” on page A-33 for assistance with syntax.

BMC89061E**THIS PASSWORD REQUIRES “OLDCPUID” KEYWORD FOR THE CPU ID TO BE DELETED.**

Explanation: The Delete password being processed requires specification of the OLDCPUID keyword, and none was specified.

System Action: The password is not processed.

User Response: Specify the OLDCPUID keyword on your input control statement. See “Control Statements and Keywords” on page A-33 for assistance with syntax.

BMC89062E	PASSWORD TO UPDATE AN EXISTING CPU ID ENTRY REQUIRES “OLDCPUID” KEYWORD. <i>Explanation:</i> The Update password being processed requires specification of the OLDCPUID keyword, and none was specified. <i>System Action:</i> The password is not processed. <i>User Response:</i> Specify the OLDCPUID keyword on your input control statement. See “Control Statements and Keywords” on page A-33 for assistance with syntax.
BMC89063E	THIS PASSWORD REQUIRES “NEWCPUID” AND “OLDCPUID” KEYWORDS. <i>Explanation:</i> The Replace password being processed requires specification of the NEWCPUID and OLDCPUID keywords, and neither was specified. <i>System Action:</i> The password is not processed. <i>User Response:</i> Specify the NEWCPUID and OLDCPUID keywords on your input control statement. See “Control Statements and Keywords” on page A-33 for assistance with syntax.
BMC89064W	ERRORS CAUSED TERMINATION. SOME OR ALL REQUESTS DID NOT COMPLETE SUCCESSFULLY. <i>Explanation:</i> The input data contains one or more errors. <i>System Action:</i> Processing terminates at the point of the error. <i>User Response:</i> Examine the input control statements for errors. See “Control Statements and Keywords” on page A-33 for assistance with syntax. If you cannot locate the errors, contact your BMC Software technical support analyst for assistance.
BMC89065I	ALL REQUESTS COMPLETED SUCCESSFULLY. <i>Explanation:</i> All requested functions have been processed. <i>System Action:</i> The product load library is updated. <i>User Response:</i> None. Information only.

BMC89069E PERMANENT PRODUCT AUTHORIZATION TABLE'S GRACE PERIOD IS INVALID. PLEASE CONTACT BMC PRODUCT SUPPORT.

Explanation: An error occurred, invalidating the table's grace period. The table must be rebuilt.

System Action: All functions are suppressed.

User Response: Contact your BMC Software technical support analyst for assistance.

BMC89070E ISPF V3 REQUIRED. USE BATCH UPDATE PGM INSTEAD.

Explanation: ISPF version 3 (or later) is required to run the online customer interface.

System Action: The online customer interface terminates.

User Response: Use the batch update program.

BMC89100E INTERNAL ERROR, RC = <return-code>. PLEASE CONTACT BMC PRODUCT SUPPORT.

Explanation: A processing error occurred.

System Action: The function is not performed.

User Response: Note the return code, and contact your BMC Software technical support analyst for assistance.

BMC89101E PASSWORD CONTAINS INVALID CHARACTERS.

Explanation: The password contains one or more invalid special characters. The only special characters permitted are @, =, and +.

System Action: The password is not processed.

User Response: Correct the password, and resubmit the job.

BMC89102E PASSWORD CONTAINS ILLEGAL CHARACTERS (I AND/OR O).

Explanation: The password contains one or more of the letters *I* or *O*. These letters are not permitted in passwords.

System Action: The password is not processed.

User Response: Correct the password, and resubmit the job.

BMC89104E**PASSWORD DOES NOT MATCH SERIAL NUMBER AND MODEL NUMBER.**

Explanation: The specified password is not correct for the specified CPU serial number and model number; or (if the batch interface was used) the product code in the PARM statement is not correct. To obtain your CPU serial and model numbers, log on to the processor and perform one of the following actions:

- Select the **Display current processor information** option from the Product Authorization Primary Menu (see page A-11), and submit the product-authorization batch program with the LIST option (see page A-33).
- Issue the MVS operator command D M=CPU from the system console.

System Action: The password is rejected.

User Response: Verify that the specified CPU serial number and model number are correct. If the numbers are incorrect, retry the action specifying the proper numbers. If the numbers are correct, contact BMC Software Product Support for assistance.

If the batch program was used, verify that the three-character product code specified in the PARM= statement is correct. If the product code is correct, but the job still fails, contact your BMC Software technical support analyst for assistance.

BMC89105E**PASSWORD IS INCORRECT. PLEASE VERIFY AND RE-ENTER THE PASSWORD.**

Explanation: The specified password is not correct.

System Action: The password is rejected.

User Response: Verify that the password and the product code have been specified correctly, and retry the action. If the password continues to be rejected, contact your BMC Software technical support analyst for assistance.

BMC89106E**COULD NOT FIND THE EXISTING CPU ID ENTRY THAT WAS TO BE DELETED.**

Explanation: An attempt was made to delete an entry in the product-authorization table, but the entry could not be found. This error usually indicates that the wrong product library was specified.

System Action: No changes are made to the product-authorization table.

User Response: Verify that the correct product load library is specified and retry the action. You can view entries in the product-authorization table by selecting the **Display product authorization** option from the “Product Authorization Primary Menu (SECEPPRI)” on page A-11 or by submitting the product-authorization batch program with the LIST option.

BMC89107E	ATTEMPTING TO ADD A CPU ID THAT IS ALREADY IN THE TABLE. <i>Explanation:</i> This CPU is already authorized for this product. <i>System Action:</i> The password is not processed. <i>User Response:</i> Determine whether the CPU ID is correct. You may need to display current processor information.
BMC89108W	PRODUCT IS NOT AUTHORIZED TO EXECUTE. PLEASE ENTER BMC-SUPPLIED PASSWORDS. <i>Explanation:</i> There are no authorized CPUs in the password library. <i>System Action:</i> The product does not run. <i>User Response:</i> Use a password to add an entry for the correct processor to the product load library.
BMC89110I	PRODUCT AUTHORIZATION TABLE WAS SUCCESSFULLY BUILT/UPDATED. YOU ARE NOW AUTHORIZED TO EXECUTE THIS PRODUCT ON ANY PROCESSOR UNTIL <mm/dd/yyyy>. PRESS ENTER TO CONTINUE. <i>Explanation:</i> The product-authorization table has been modified to allow execution of this product temporarily (until the indicated date). <i>System Action:</i> None. <i>User Response:</i> None. Information only. If you have a permanent license for this product, contact your BMC Software sales representative to obtain a permanent license password.
BMC89111E	RC=<n> WHILE ATTEMPTING TO DECODE THE EXPIRATION DATE. <i>Explanation:</i> The Product Authorization utility was unable to decode the expiration date because of an internal error. <i>System Action:</i> The action fails, or the batch job terminates. <i>User Response:</i> Note the return code, and contact your BMC Software technical support analyst for assistance.
BMC89112W	THERE ARE NO ENTRIES FOR LICENSED PROCESSORS. <i>Explanation:</i> There are no authorized CPUs in the password library. <i>System Action:</i> The product does not execute. <i>User Response:</i> Use a password to add an entry for the correct processor to the password library.

BMC89113E DATA SET DOES NOT EXIST OR IS NOT CATALOGED.

Explanation: The specified password library cannot be found.

System Action: The action fails, or the batch job terminates.

User Response: Correct the data set name for the password library or catalog the data set, and retry the action.

BMC89114E OBTAIN ERROR. DATA SET MAY BE ARCHIVED.

Explanation: The specified password library cannot be found and might be archived.

System Action: The action fails, or the batch job terminates.

User Response: Verify the data set name for the password library or restore the data set, and retry the action.

BMC89115E DATA SET IS NOT A VALID LOAD LIBRARY.

Explanation: The specified password library is not a partitioned data set. The product-authorization interface and Product Authorization utility expect the product load library to be a partitioned data set.

System Action: The action fails, or the batch (utility) job terminates.

User Response: Verify that the data set name for the correct password library was specified. The password library should be a partitioned data set. If the data set is not partitioned, check to ensure that the product was correctly installed. Retry the action. If the error persists, contact your BMC Software technical support analyst for assistance.

BMC89116E THIS TEMPORARY AUTHORIZATION PASSWORD CONTAINS AN EXPIRATION DATE THAT HAS ALREADY EXPIRED.

Explanation: To be valid, the expiration date for the temporary password must be equal to, or greater than, the current date.

System Action: The password is not processed.

User Response: Contact your BMC Software sales representative.

- BMC89117E THE PRODUCT AUTHORIZATION TABLE IS FULL. NO NEW CPU IDS CAN BE ADDED.**
- Explanation:* The maximum number of CPUs has been stored in this product-authorization table.
- System Action:* The password is not processed.
- User Response:* If some CPUs in the table are no longer being used, they can be deleted to make room for this CPU. Contact your BMC Software sales representative to obtain a Delete password. If no CPUs can be deleted, call your BMC Software technical support analyst for assistance.
- BMC89118E TEMPORARY AUTHORIZATION PASSWORD DOES NOT CORRESPOND TO THE CURRENT BMC PRODUCT.**
- Explanation:* The temporary authorization in your product-authorization library is for a product other than the one that you are attempting to execute.
- System Action:* The product does not execute.
- User Response:* Contact your BMC Software technical support analyst for assistance.
- BMC89119E I/O ERROR WHILE ATTEMPTING TO READ PRODUCT AUTHORIZATION TABLE (DDNAME=SYSLIB).**
- Explanation:* The system is unable to read the product-authorization table.
- System Action:* All functions are suppressed.
- User Response:* After several attempts are made to read the table, the table might have to be rebuilt. Contact your BMC Software technical support analyst for assistance.
- BMC89120E COULD NOT FIND THE EXISTING CPU ID ENTRY THAT WAS TO BE REPLACED.**
- Explanation:* An attempt was made to apply a Replace password, but the CPU to be replaced in the product-authorization table cannot be found.
- System Action:* The password is not processed.
- User Response:* The old CPU ID or the password was specified incorrectly. Correct the specification and retry the action. If failure persists, contact your BMC Software technical support analyst for assistance.

BMC89121E PERMANENT PRODUCT AUTHORIZATION TABLE WAS NOT FOUND, BUT THE PASSWORD SPECIFIES A “DELETE” OR “REPLACE” ACTION.

Explanation: An attempt was made to apply a Delete password or a Replace password, but the system cannot locate a product-authorization table for this product.

System Action: The password is not processed.

User Response: Contact your BMC Software technical support analyst for assistance.

BMC89122E ATTEMPTING TO ADD A NEW CPU ID TO A NEW TABLE, BUT SERIAL NUMBER AND MODEL NUMBER WERE NOT SPECIFIED.

Explanation: The CPU serial number and the model number are required before the password can be processed.

System Action: The password is not processed.

User Response: Add the CPU ID and the model number, and resubmit the job.

BMC89123E PERMANENT PRODUCT AUTHORIZATION TABLE IS INVALID. PLEASE CONTACT BMC PRODUCT SUPPORT.

Explanation: An error invalidated the product-authorization table. The table must be rebuilt.

System Action: All functions are suppressed.

User Response: Contact your BMC Software technical support analyst for assistance.

BMC89124E TEMPORARY PRODUCT AUTHORIZATION TABLE IS INVALID. PLEASE CONTACT BMC PRODUCT SUPPORT.

Explanation: An error invalidated the product-authorization table. The table must be rebuilt.

System Action: All functions are suppressed.

User Response: Contact your BMC Software technical support analyst for assistance.

**BMC89125E THIS PASSWORD IS NO LONGER VALID. IT CANNOT BE USED TO
ACTIVATE OR CHANGE YOUR PRODUCT LICENSE. PLEASE CONTACT
YOUR BMC SALES REPRESENTATIVE.**

Explanation: The password has expired.

System Action: The password is not processed.

User Response: Contact your BMC Software sales representative or your BMC
Software technical support analyst for assistance.

**BMC89126E I/O ERROR WHILE ATTEMPTING TO WRITE PRODUCT
AUTHORIZATION TABLE (DDNAME=SYSLIB).**

Explanation: A write error occurred.

System Action: All functions are suppressed.

User Response: Verify that the data set name is correct and that the data set is
partitioned. If you are unable to resolve the problem, contact your BMC Software
technical support analyst for assistance.

**BMC89127I PROCESSOR WAS SUCCESSFULLY ADDED TO THE PRODUCT
AUTHORIZATION TABLE. YOU ARE NOW AUTHORIZED TO EXECUTE
THIS PRODUCT ON SERIAL NUMBER <nnnnn>, MODEL NUMBER
<mmmm>. PRESS ENTER TO CONTINUE.**

Explanation: The Add password has been processed. The product-authorization
table was modified to allow operation of this product on the CPU with the serial
number and model numbers indicated.

System Action: None.

User Response: None. Information only.

**BMC89128I PROCESSOR (SERIAL NUMBER <nnnnn>, MODEL NUMBER <mmmm>)
WAS SUCCESSFULLY DELETED FROM THE PRODUCT
AUTHORIZATION TABLE. PRESS ENTER TO CONTINUE.**

Explanation: The Delete password has been processed. This product can no
longer be executed on the CPU with the serial and model numbers indicated in the
message.

System Action: None.

User Response: None. Information only.

BMC89129I **PROCESSOR WAS SUCCESSFULLY REPLACED IN THE PRODUCT AUTHORIZATION TABLE. YOU ARE NOW AUTHORIZED TO EXECUTE THIS PRODUCT ON SERIAL NUMBER <nnnnn>, MODEL NUMBER <mmmm>. PRESS ENTER TO CONTINUE.**

Explanation: The Replace password has been processed. The CPU with the serial and model numbers indicated is now authorized to use this product.

System Action: None.

User Response: None. Information only.

BMC89130I **PROCESSOR (SERIAL NUMBER <nnnnn>, MODEL NUMBER <mmmm>) WAS SUCCESSFULLY MODIFIED IN THE PRODUCT AUTHORIZATION TABLE. PRESS ENTER TO CONTINUE.**

Explanation: The Modify password has been processed. The product-authorization table has been modified for the CPU with the serial and model numbers indicated.

System Action: None.

User Response: None. Information only.

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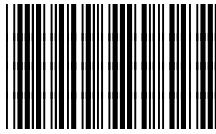
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